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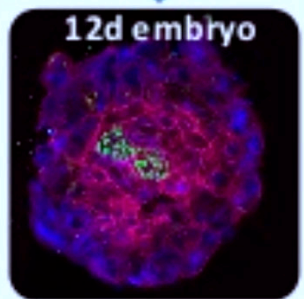
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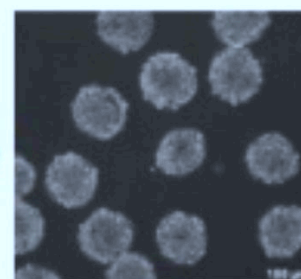
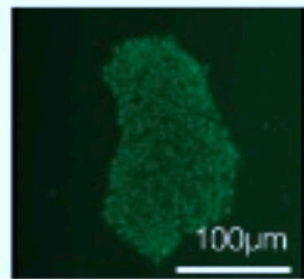
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Key directions in human embryo and pluripotent stem cell research

Human embryos

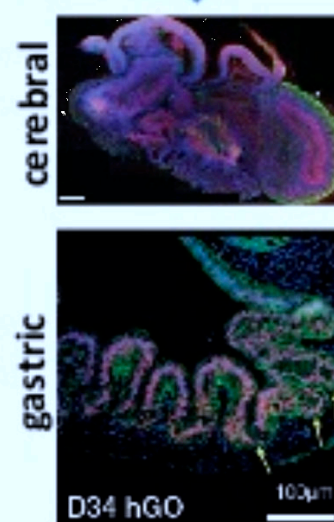
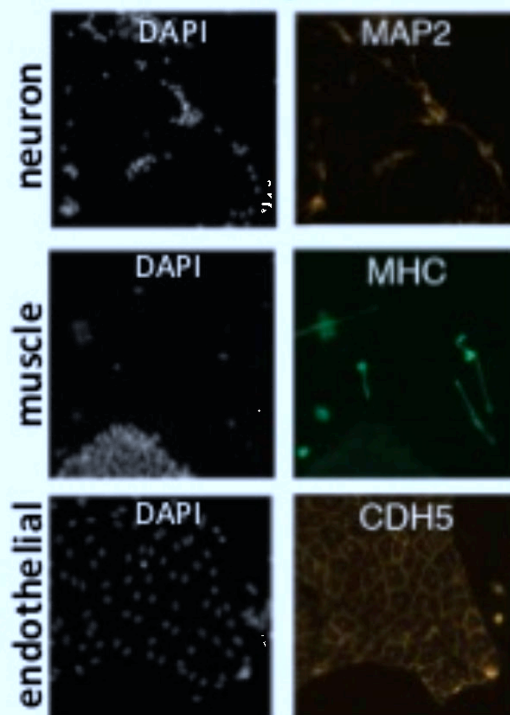


hPSC



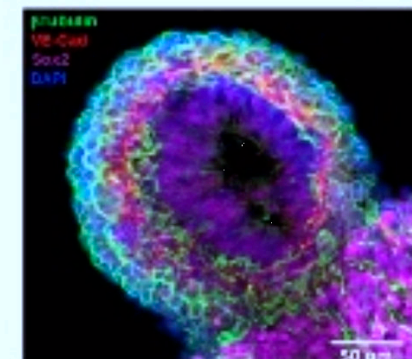
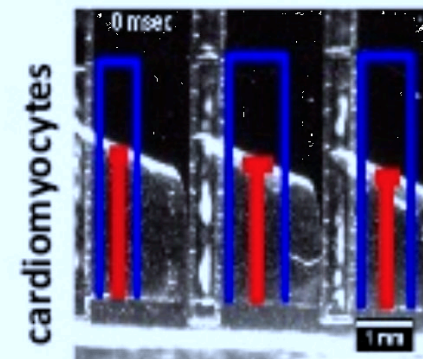
Direct differentiation
to diverse cell types

Develop organoids
from embryoid bodies



many
others...

Engineered hPSC-based tissues & organoids

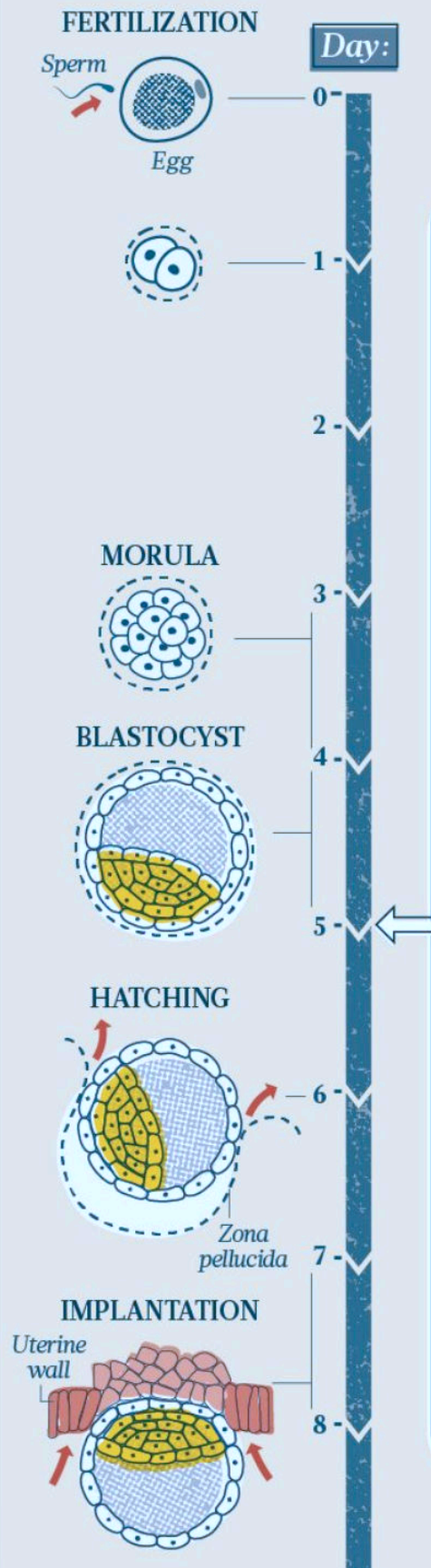


- https://embryology.med.unsw.edu.au/embryology/images/9/98/Human_embryo_day_5.jpg
- Gist Croft, Cedilia Pelligrini, Ali H. Brivanlou, Rockefeller University

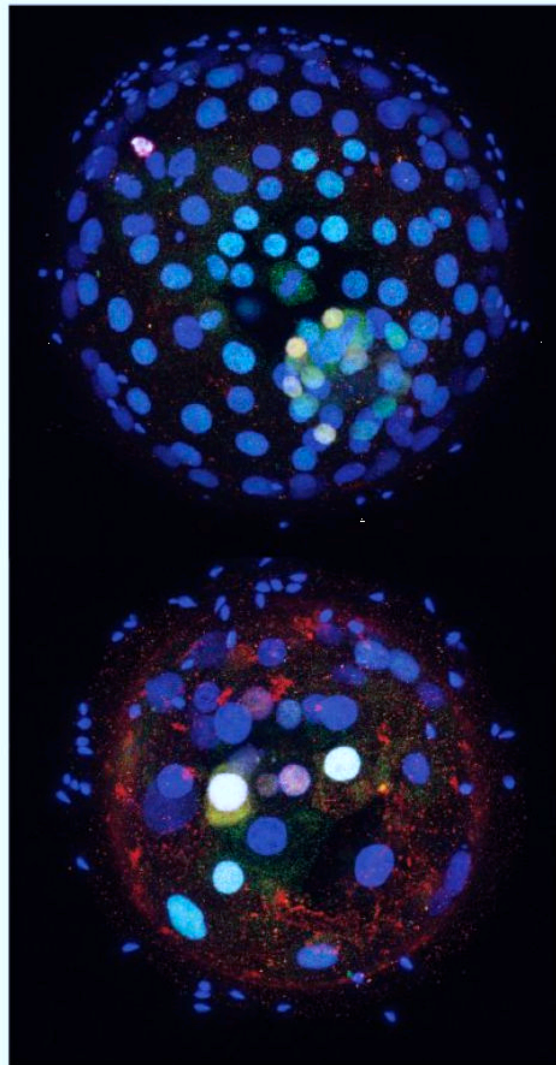
Alex Ng et al. (unpublished); Lancaster et al. (2013) Nature 501:373; McKracken et al. (2014) Nature 516:400; Wang et al. (2014) Nat Medicine 20:616; Mark Scott et al. (unpublished)

Baby steps

For decades, researchers could only guess at the early stages of human development, using animal studies and rare tissue samples as a guide. New methods for nurturing whole human embryos in the lab — and building embryo-like constructs from human stem cells — are starting to crack open the black box.



Using the gene-editing technique CRISPR, researchers blocked a key protein in early development called OCT4 and watched human embryos fail to grow into 200-cell blastocysts. Mouse embryos lacking OCT4 faltered at a later stage, hinting at differences between the two species even very early in development.



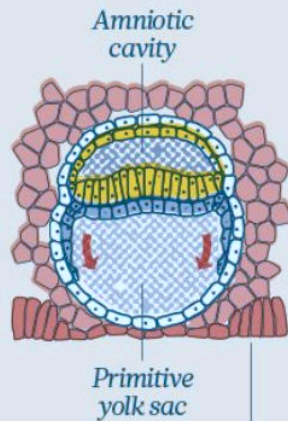
Day:

9

Remarkably, embryos can begin to self-organize without implanting in a womb. Cells in this lab-grown embryo have begun to differentiate into types — purple cells here will become the embryo proper — and have started to form the amniotic cavity, which will enclose the embryo as it grows.

10

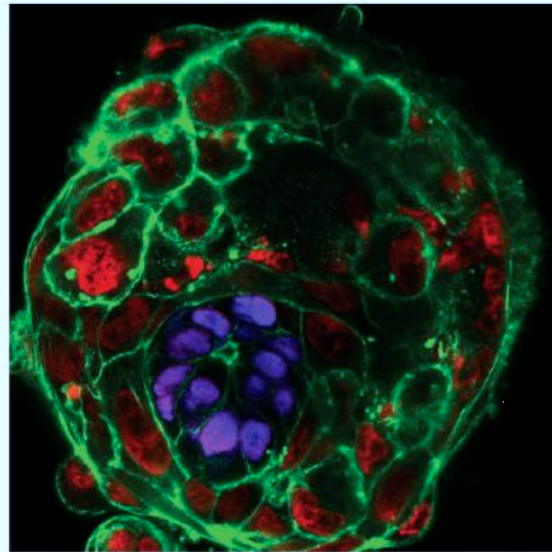
BILAMINAR EMBRYO



11

12

13



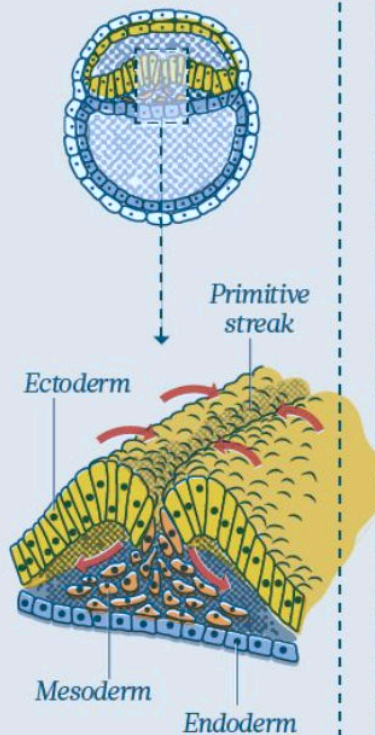
14

Ethical red line

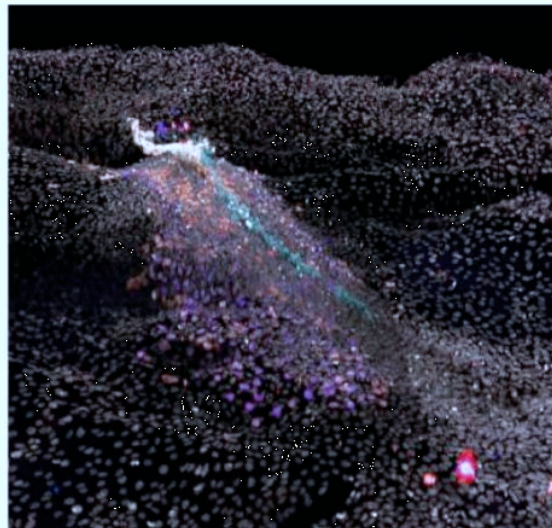
Beginning in the late 1970s, a group of ethicists and scientists advised that human embryos be grown in the lab for no longer than 14 days. The guidance has been codified into law in several countries.

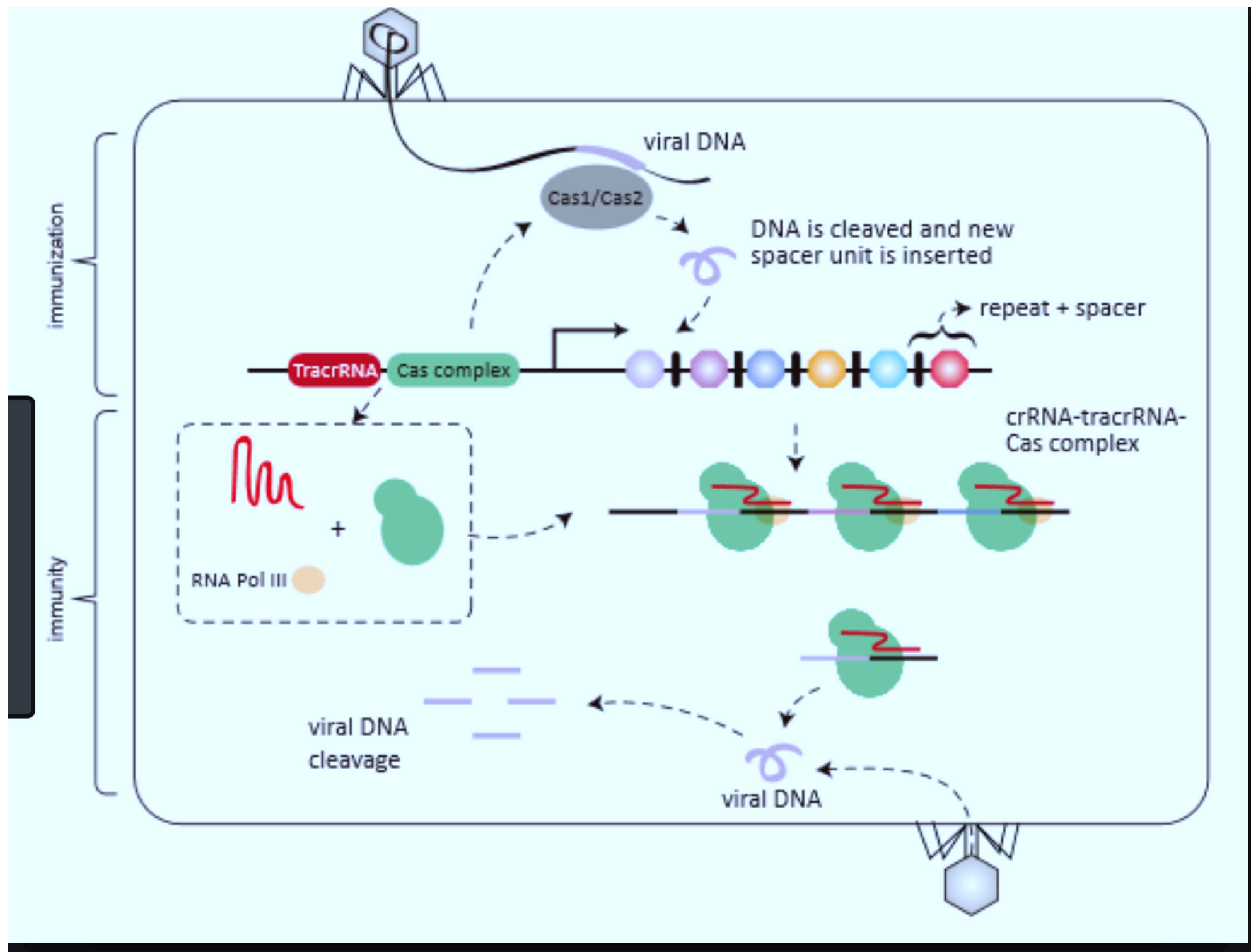
GASTRULATION

15



In animals, 'organizer cells' choreograph the formation of the embryo's head-to-tail axis and the beginnings of its nervous system. Working with synthetic embryos made from human stem cells, researchers recently demonstrated for the first time the existence of these organizers in humans.

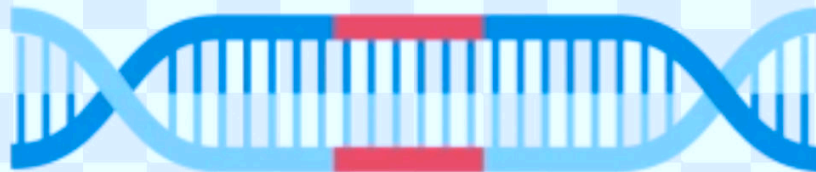




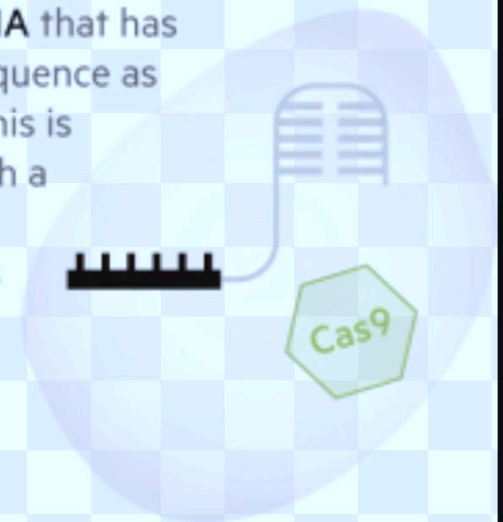
How DNA defects can be edited out

The Crispr-Cas9 technique can fight sickness at its source

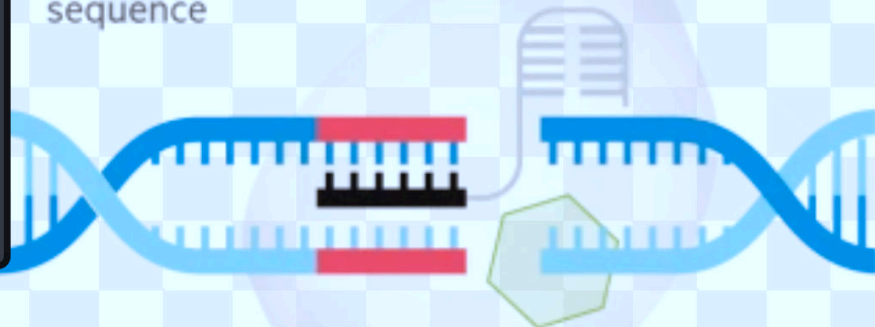
- 1 Scientists identify a **defective DNA strand** to be cut out and modified



- 2 They create **guide RNA** that has the same genomic sequence as the defective DNA. This is combined in a cell with a protein called **Cas9** which acts like scissors to cut the defective DNA



- 3 The **guide RNA** finds the matching genomic sequence



Then the **Cas9** cuts the strand making a break in the DNA helix

- 4 Cells are able to detect and repair broken DNA. A **healthy strand of DNA** is inserted at the cut site and enzymes repair it

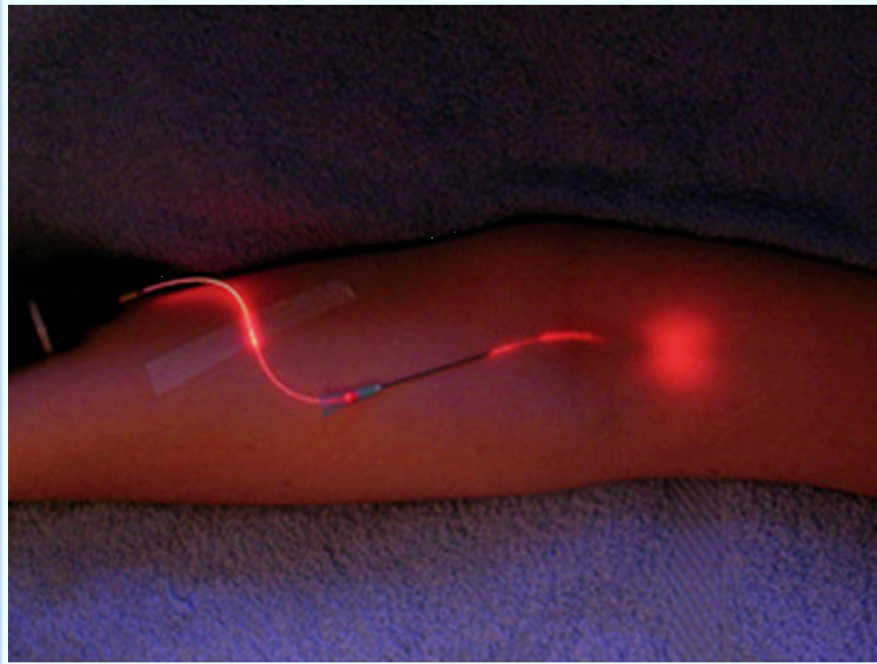


Cell repair systems can use a piece of complimentary DNA, called a template. Scientists can add beneficial changes to the template, such as correcting a disease-causing mutation

Ultraviolet Blood Irradiation

This is not an endorsement for this medical treatment; see your own physician for any medical problems.

UV Blood Irradiation - educational purposes only, not medical advice.



UBI--Irradiating Blood For Infections

Application of Ultraviolet Blood Irradiation for Treatment of HIV and Other Blood borne Viruses

by Dr. Carl Schleicher Foundation for Blood Irradiation

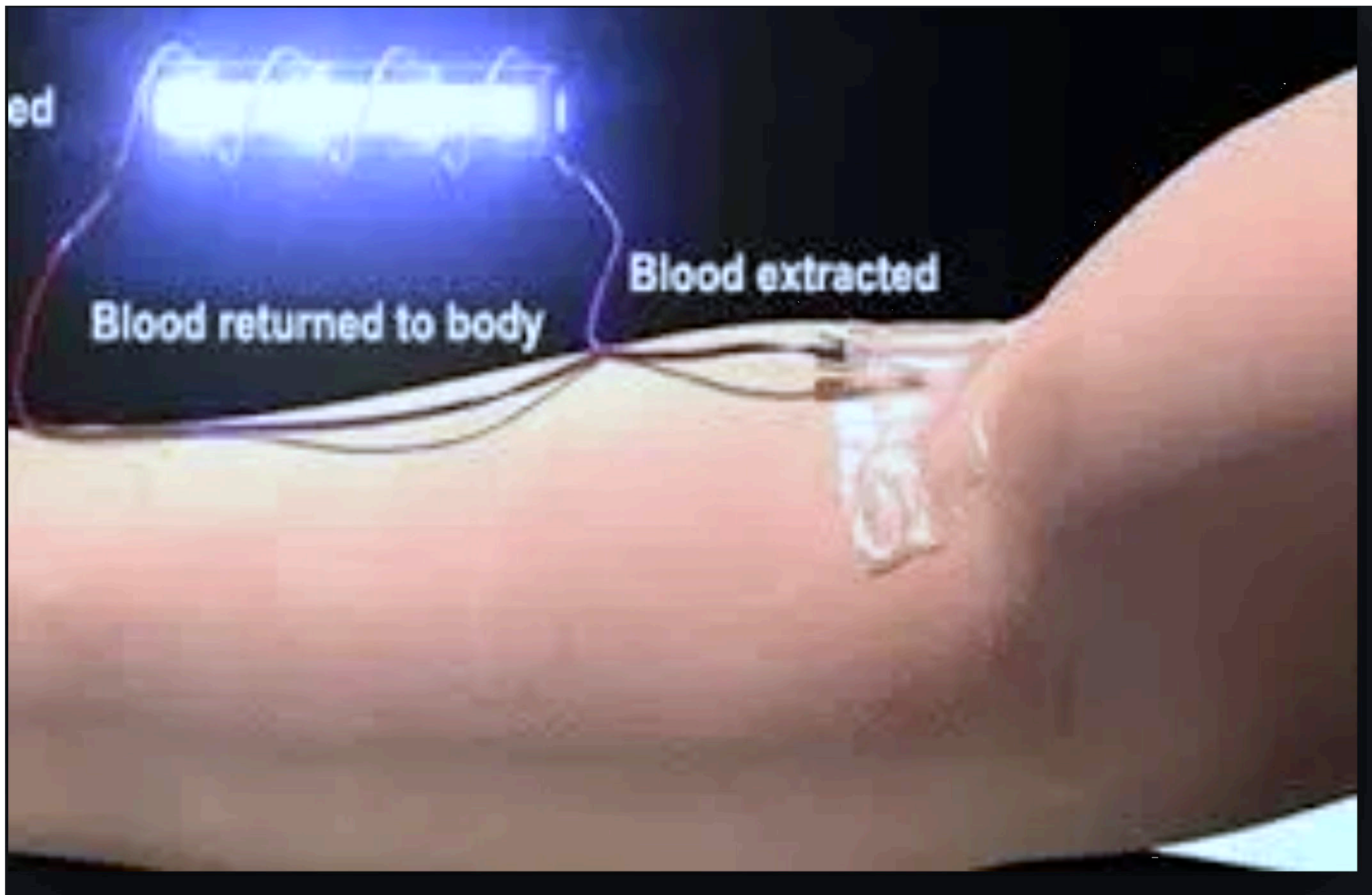
Note: Dr. Schleicher died in 1999

Abstract

This paper describes an innovative method of inactivating blood-borne viruses using ultraviolet blood irradiation called UBI therapy. This process has shown impressive clinical results in treating hepatitis, HIV, and other currently untreatable viruses. The background, theory, and method of

using UBI therapy is presented in this paper. This method offers a potential break-through in the treatment of viral diseases and bacteria, and is nontoxic, uses no drugs, and even has FDA certification, and thus is available now for use.

Ultraviolet blood irradiation first evolved in the early 1930s as a means to treat persons afflicted with the poliovirus which was causing considerable anguish and fear similar to the advent of the HIV in the 1980s and continuing. Then in the 1950s the Salk vaccine wiped out polio in the U.S. and, as a result of this fact and other reasons, this process fell in disuse until recent years. This process has now been resurrected by the Foundation for Blood Irradiation (FFBI) which had been originally founded in the 1940s by the developers of this process, most of whom are now deceased, who left this to the next generation of researchers to continue. Much credit for the early development of this technology goes



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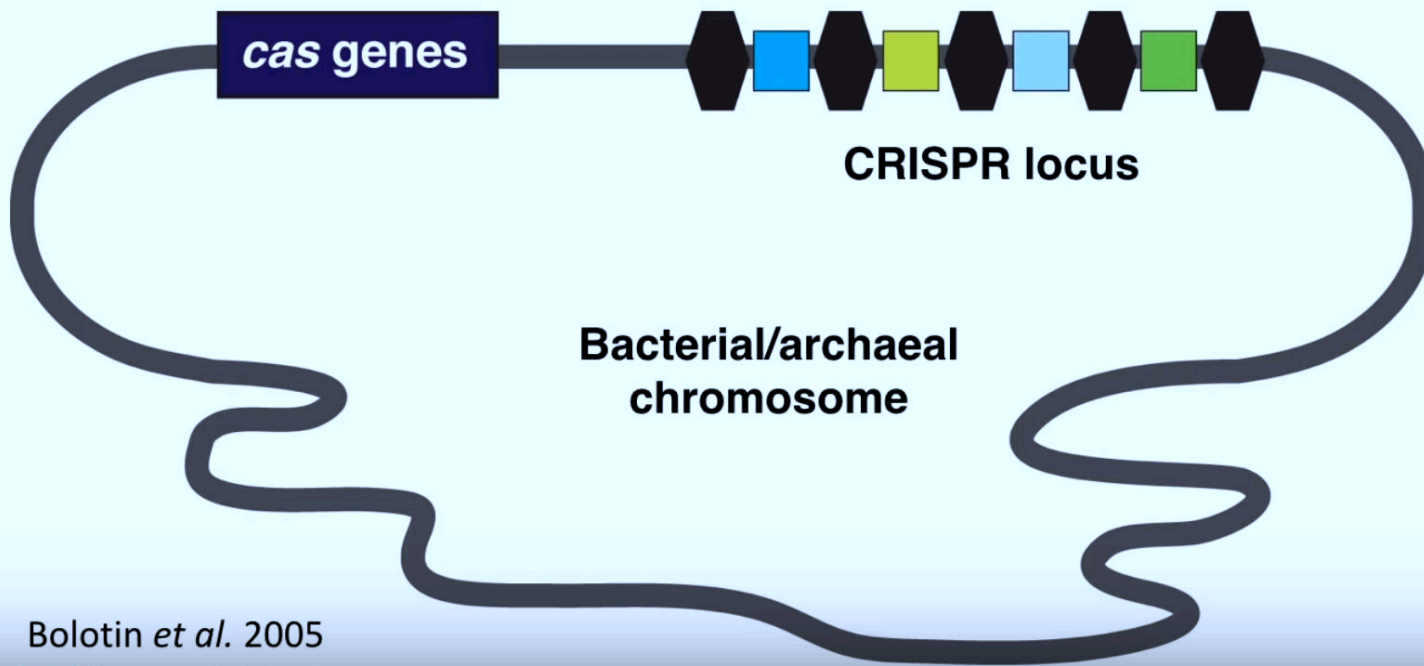
Blood returned to body

Blood extracted



CRISPRs: Hallmarks of acquired immunity in bacteria

Clusters of Regularly Interspaced Short Palindromic Repeats (CRISPRs)



Bolotin *et al.* 2005

Mojica *et al.* 2005

Pourcel *et al.* 2005

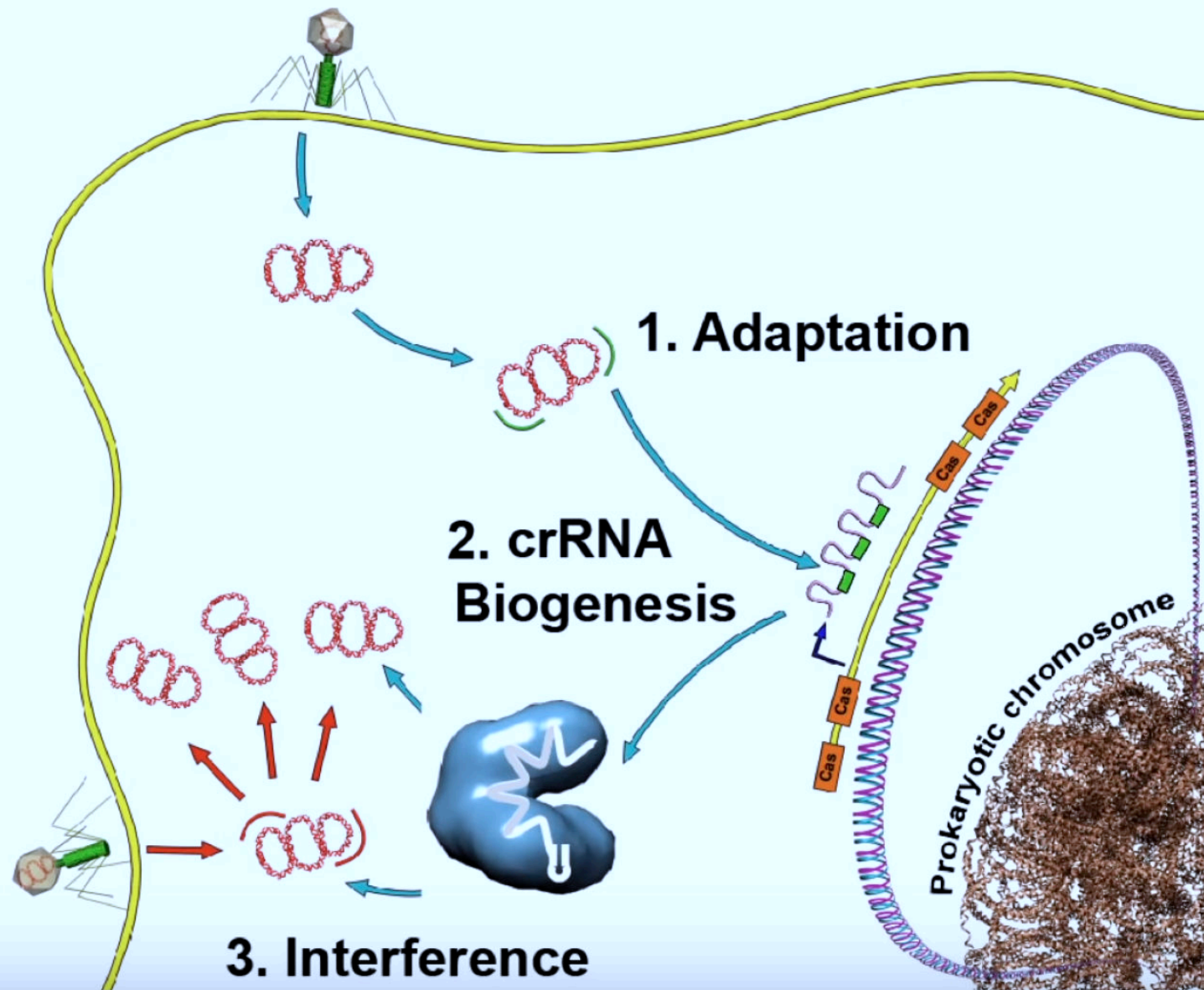
0:29 / 16:41

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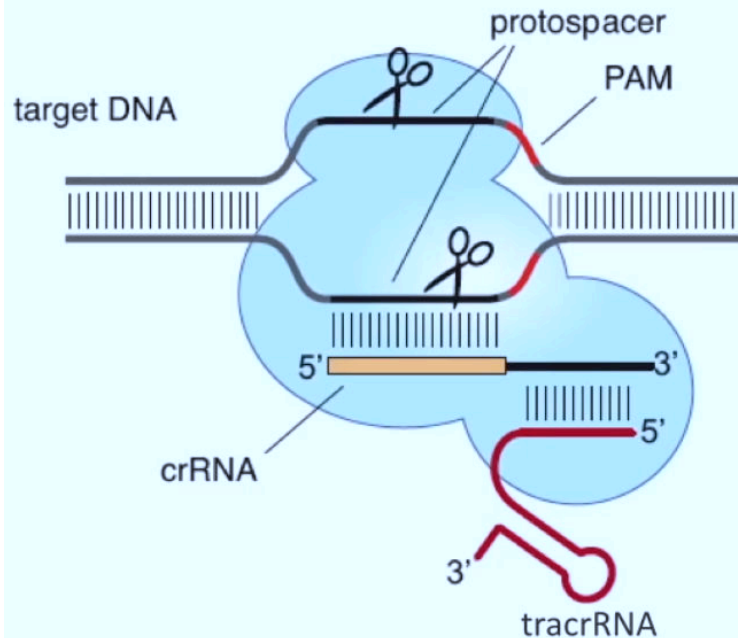
Jennifer Doudna (UC Berkeley / HHMI): Genome Engineering with CRISPR-Cas9

Three steps to acquire immunity in bacteria

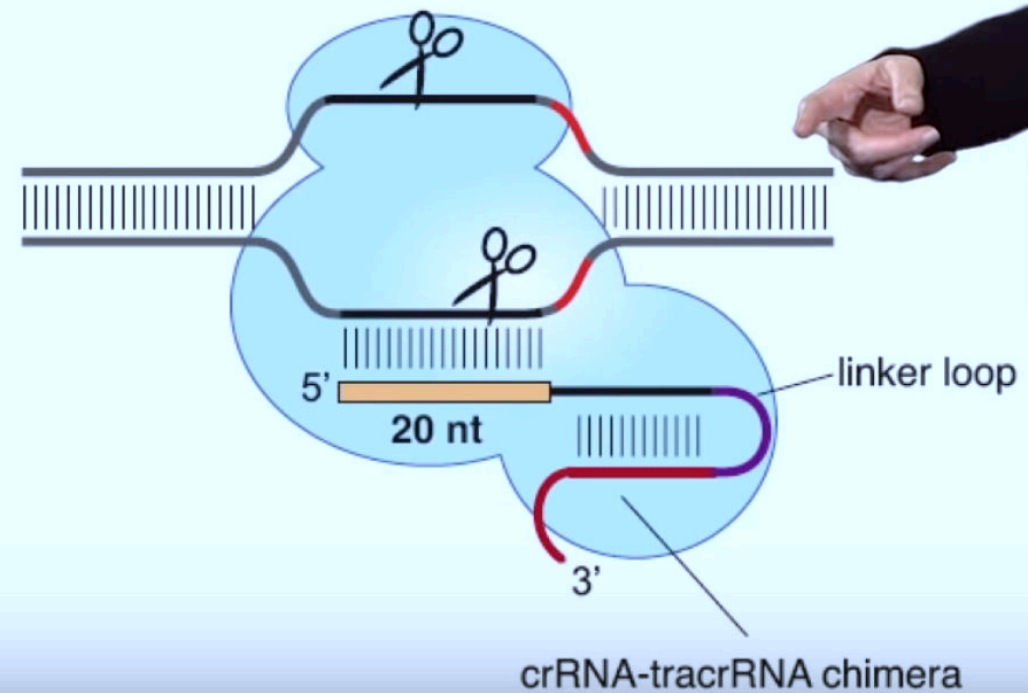


Programming Cas9 with single-guide RNAs (sgRNAs)

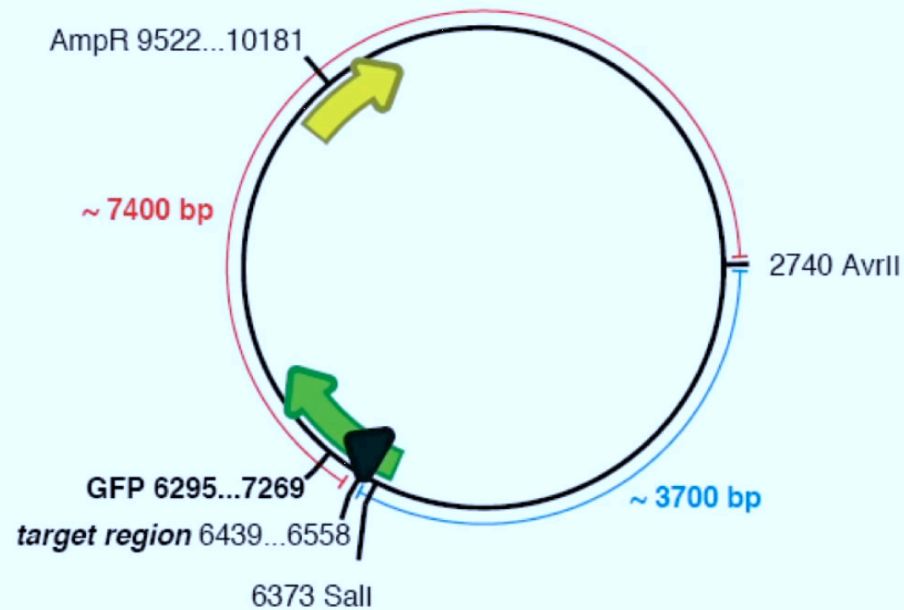
Cas9 programmed by crRNA:tracrRNA duplex



Cas9 programmed by single chimeric RNA



Programmed Cas9 cleaves DNA at specified sites

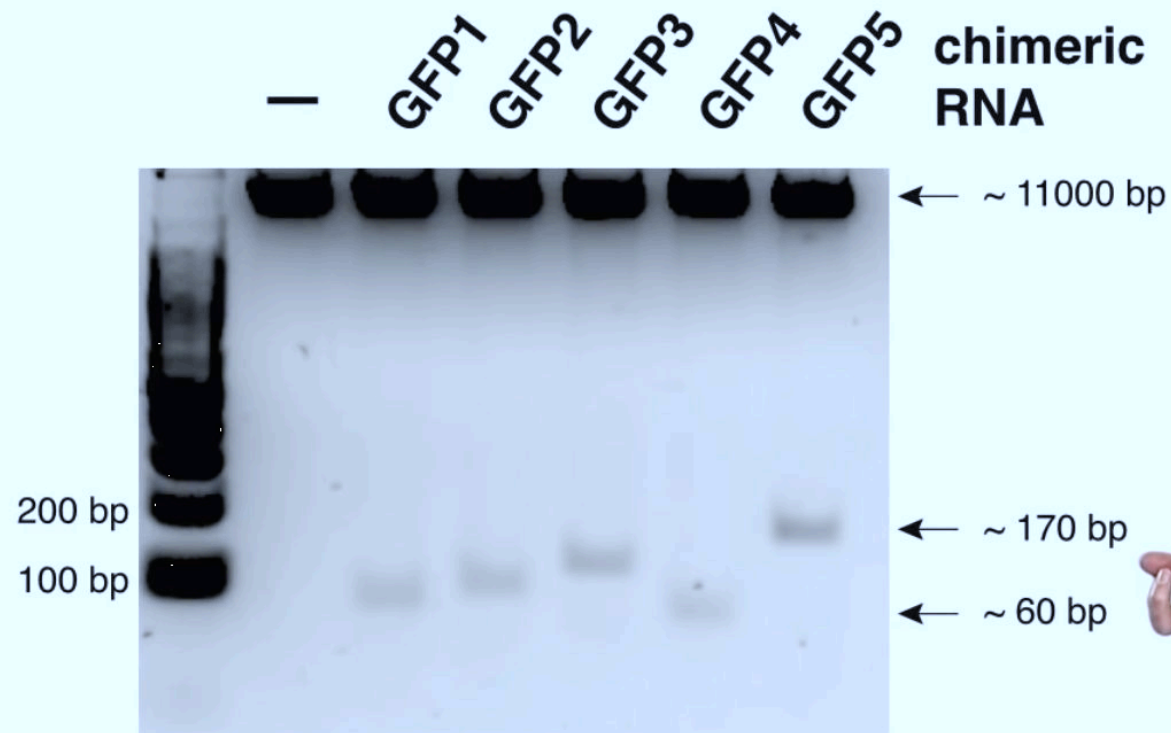


Play (k)

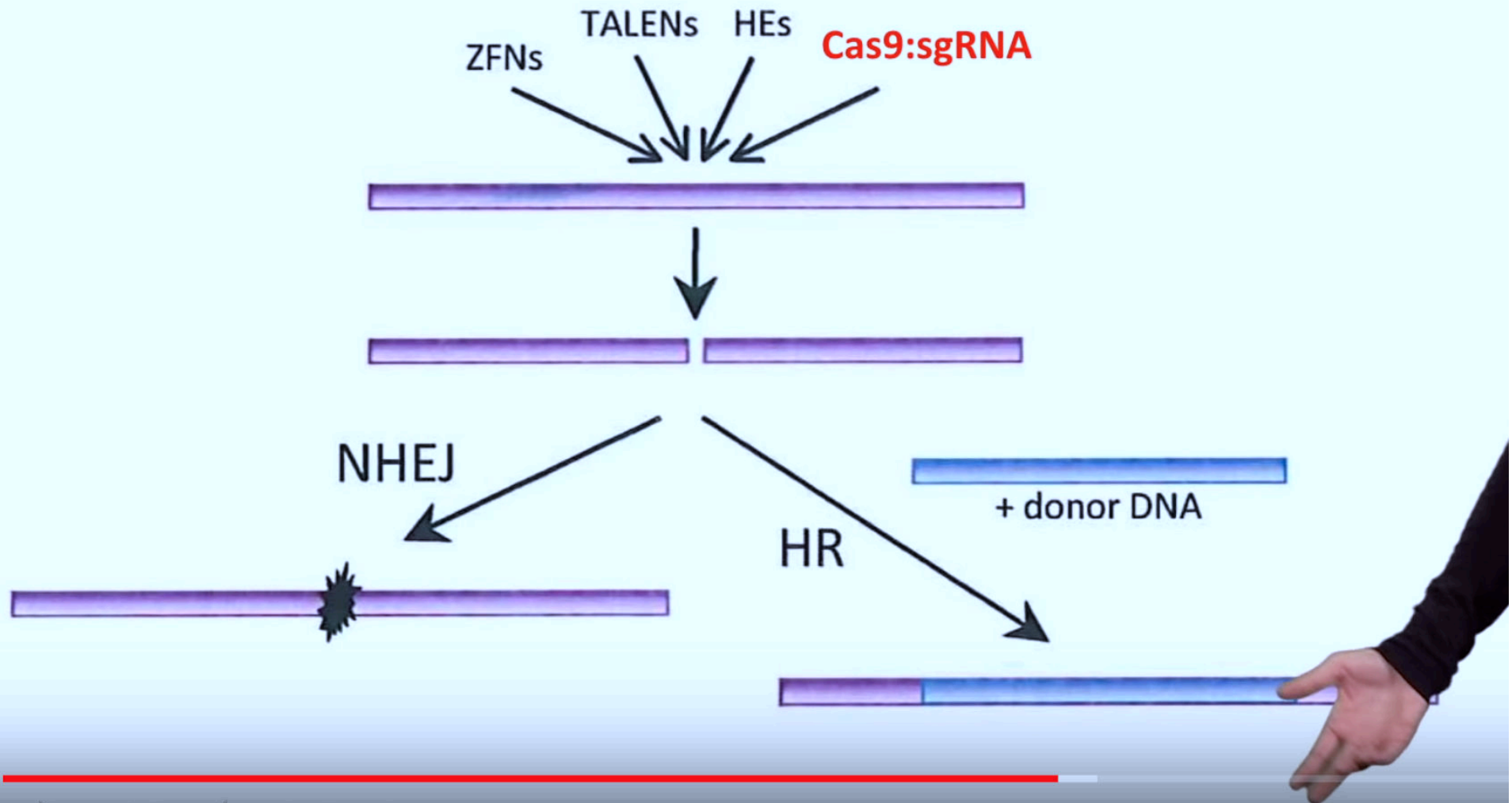
Jin et al. Science 337:1641 (2012)

iBiology.org

Programmed Cas9 cleaves DNA at specified sites



Genome editing begins with dsDNA cleavage

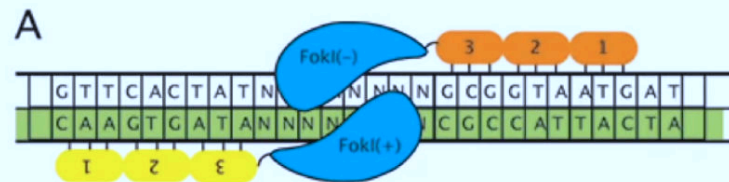


8:45 / 16:41

Genome targeting technologies

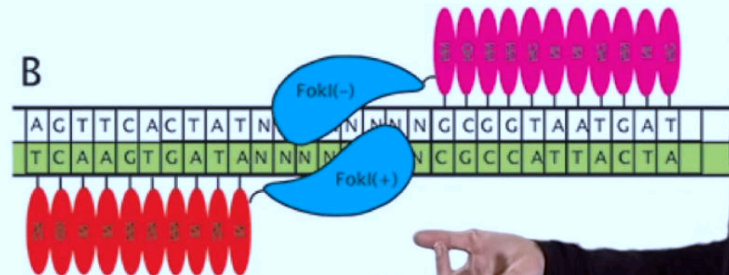
Zinc Finger Nuclease (ZFN)

3+ ZF modules, 3 bp each
x2 for specificity
fused to a nuclease



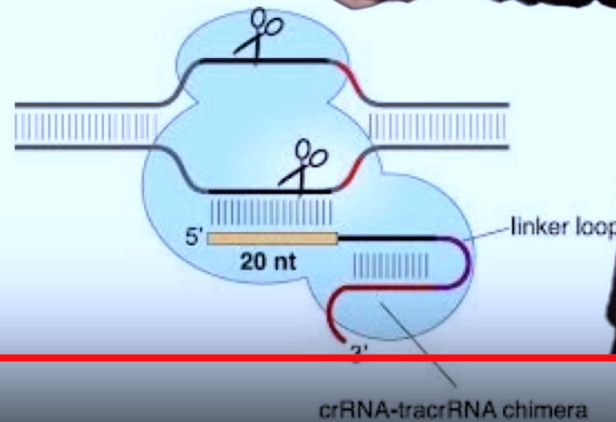
TAL Effector Nuclease (TALEN)

10+ TAL modules, 1 bp each
x2 for specificity
fused to a nuclease



CRISPR/Cas9

1 targeting RNA
bound by a nuclease



<http://www.addgene.org/TALEN/guide/>
<http://rna.berkeley.edu/crispr.html>

12:02 / 16:41

crRNA-tracrRNA chimera

iBiology.org

CC

HD

□

□

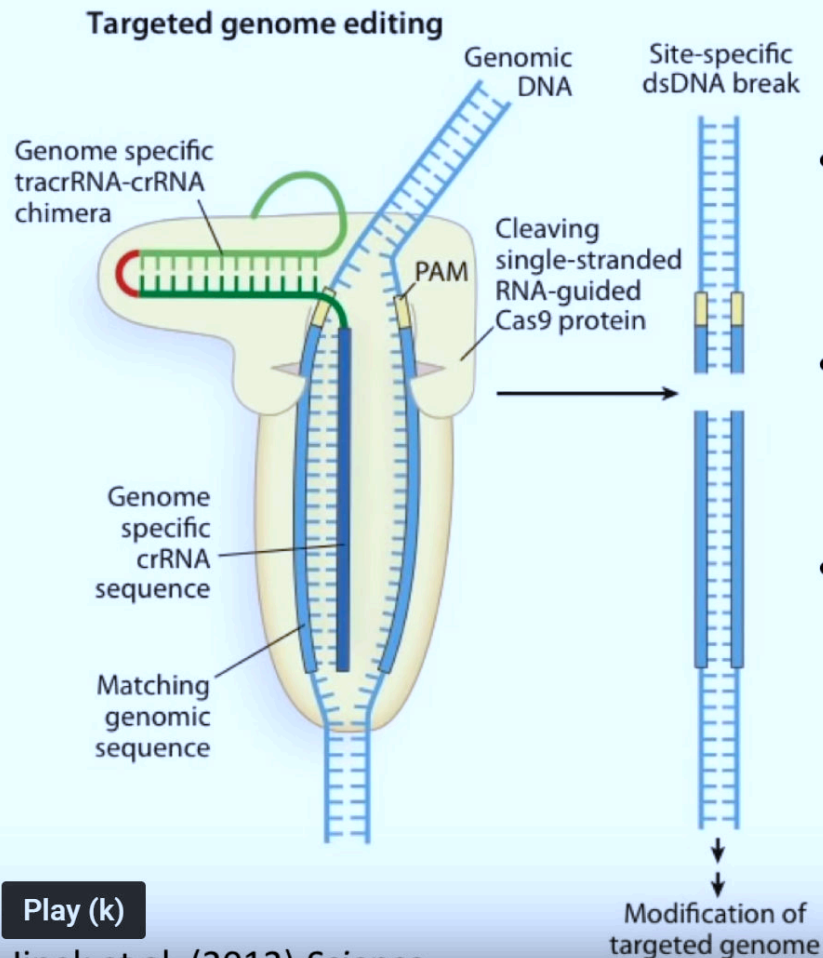
CRISPR-Cas9 technology: Fundamental to Biology's IT Toolbox

- DNA structure/sequencing
- Restriction enzymes
- PCR
- Genome editing



13:04 / 16:41

CRISPR-Cas9 technology



- 2-component system for genome engineering cleaving enzyme
- Relies on RNA-DNA base pairing to determine sites of editing
- Cas9-mediated editing is efficient, site-specific, can be “multiplexed”

Play (k)

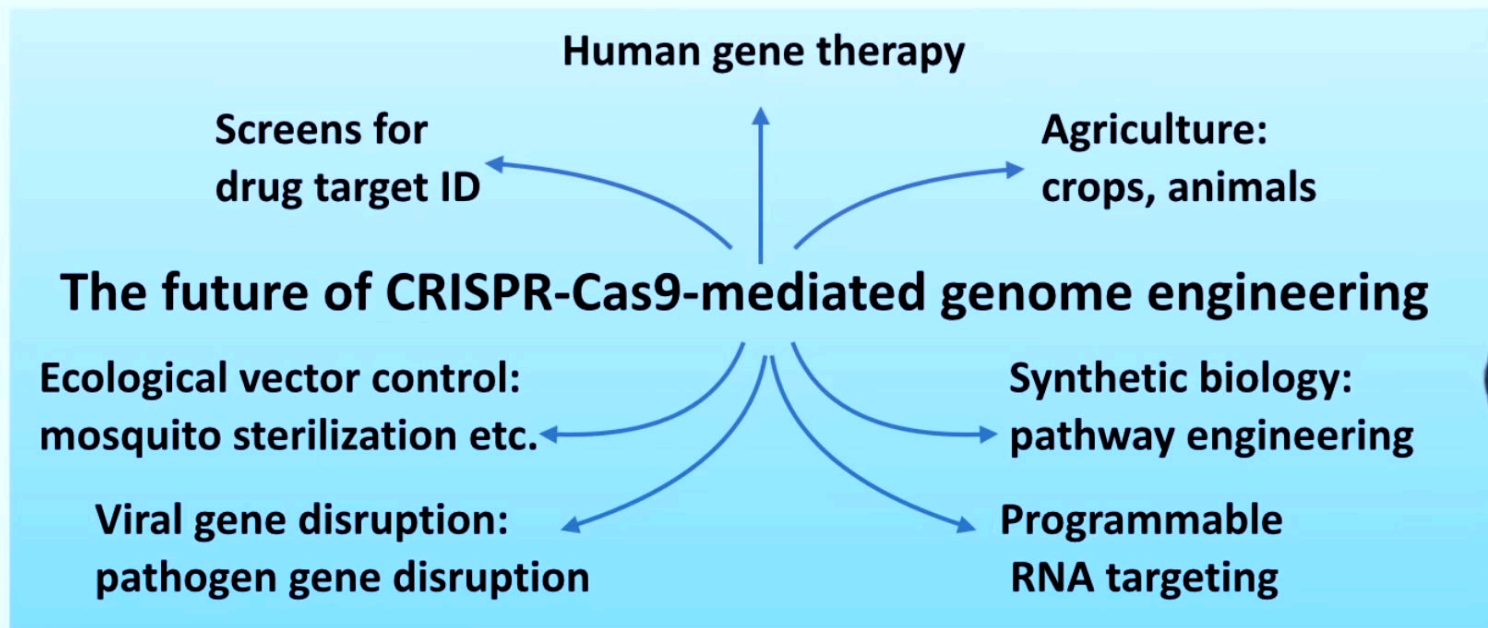
Jinek et al. (2012) *Science*

Cong et al. (2013) *Science*; Jinek et al. (2013) *eLife*; Mali et al. (2013) *Science*

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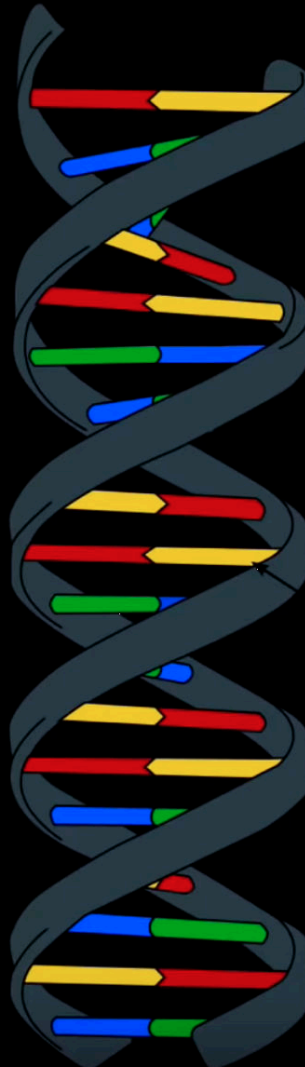


Genome engineering with CRISPR-Cas9



Clustered Regularly- Interspaced Short Palindromic Repeats

G
C
A
C
C
G
A
G
T
C
G
G
T
G
C



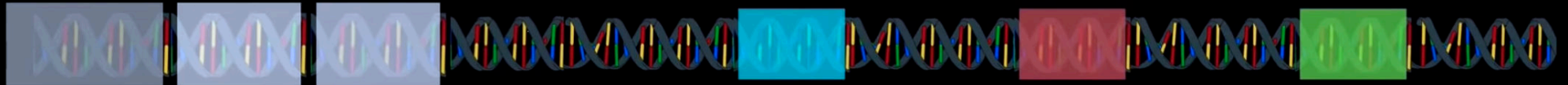
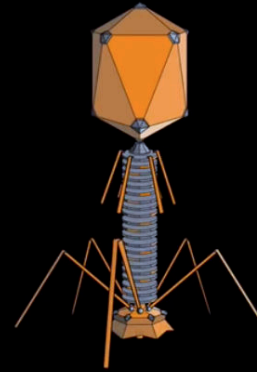
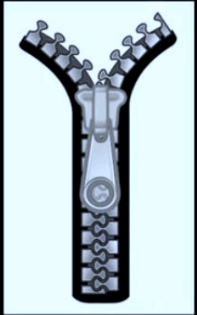
C
G
T
G
G
C
T
G
A
G
C
C
A
C
G



▶ ▶| 🔊 0:53 / 7:20



Cas



cas genes

CRISPR



1:54 / 7:20



Totipotent, Pluripotent & Multipotent

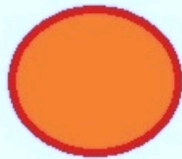
What is the Difference!!!

Embryonic Stem Cells

found in embryo

1. Totipotent - whole

total



zygote

2. Pluripotent - several

found in inner cell mass



inner
cell mass

blastocyst

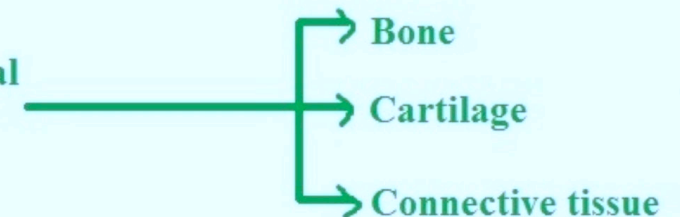
Adult Stem Cells

found in many organs

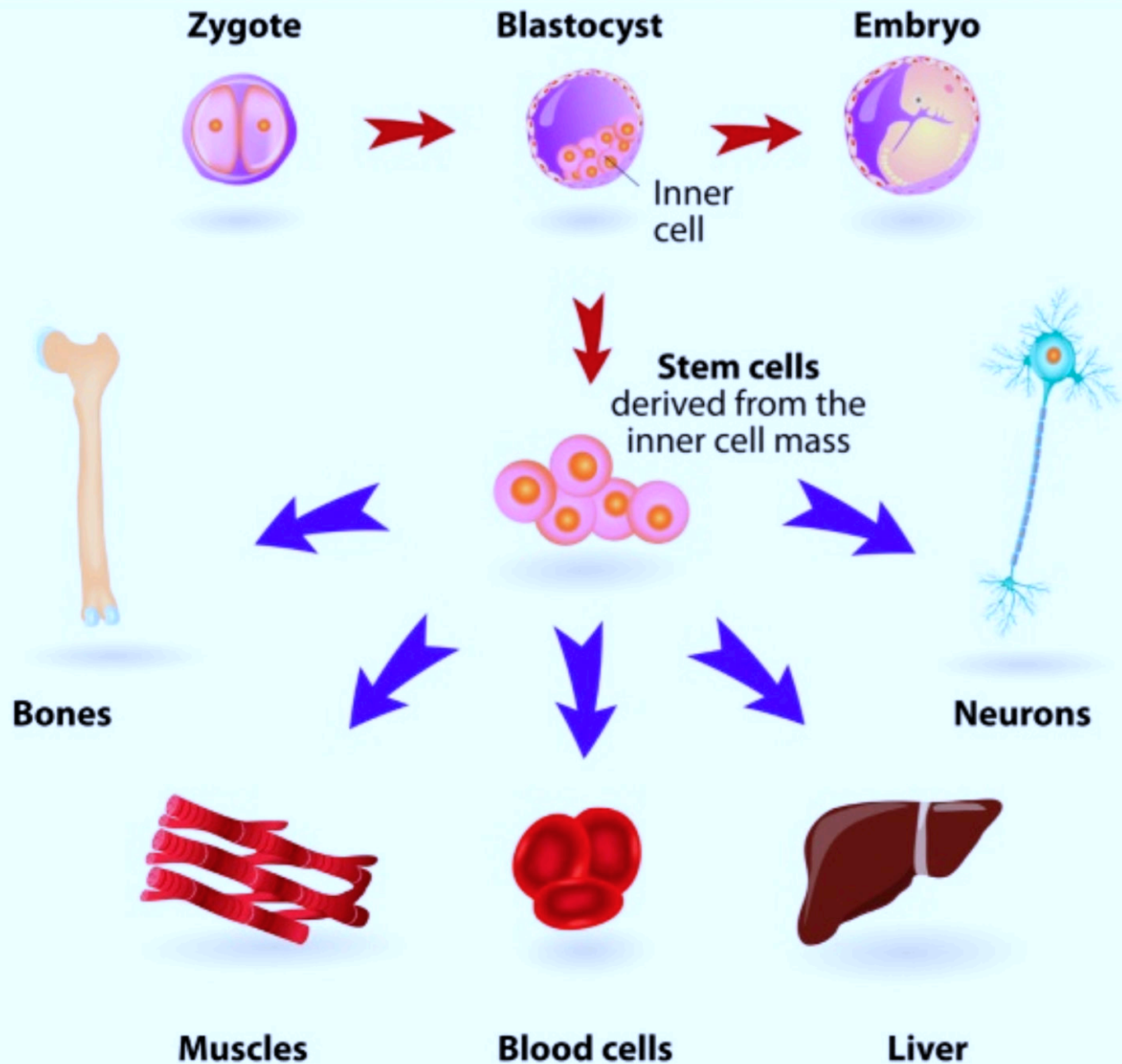
3. Multipotent - a few in this case

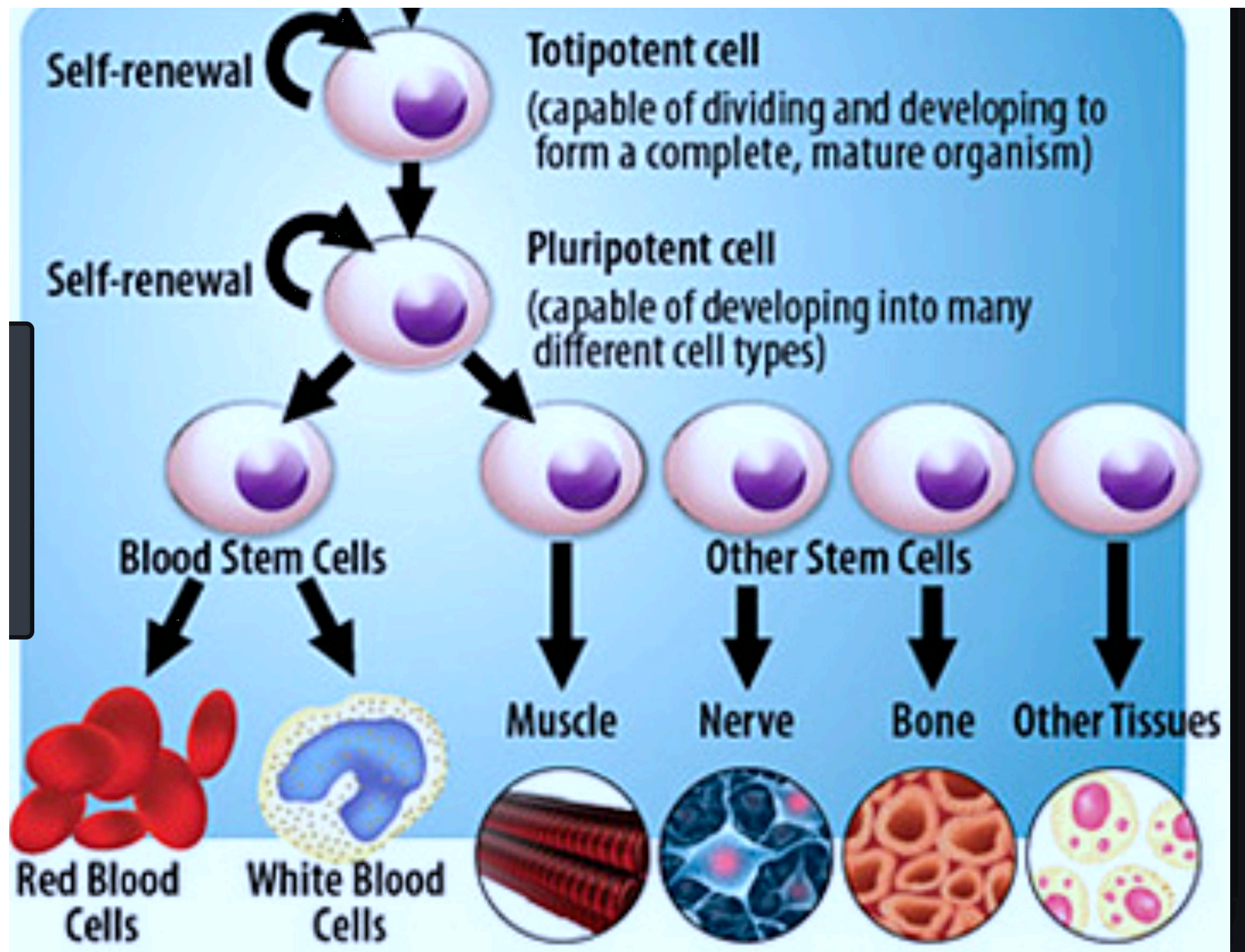
specialization potential is limited to one or more cell lines

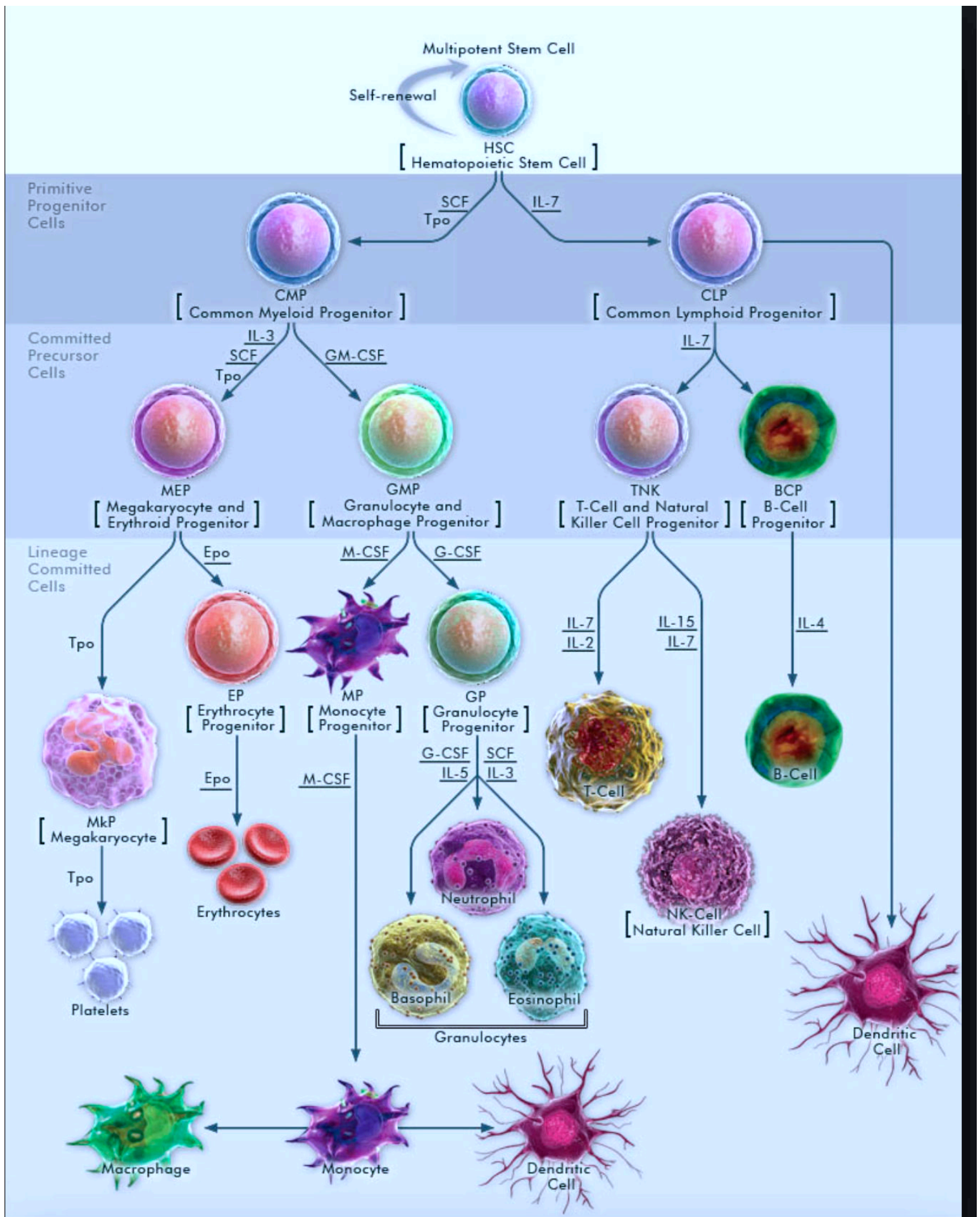
e.g. Mesenchymal
Stem Cell

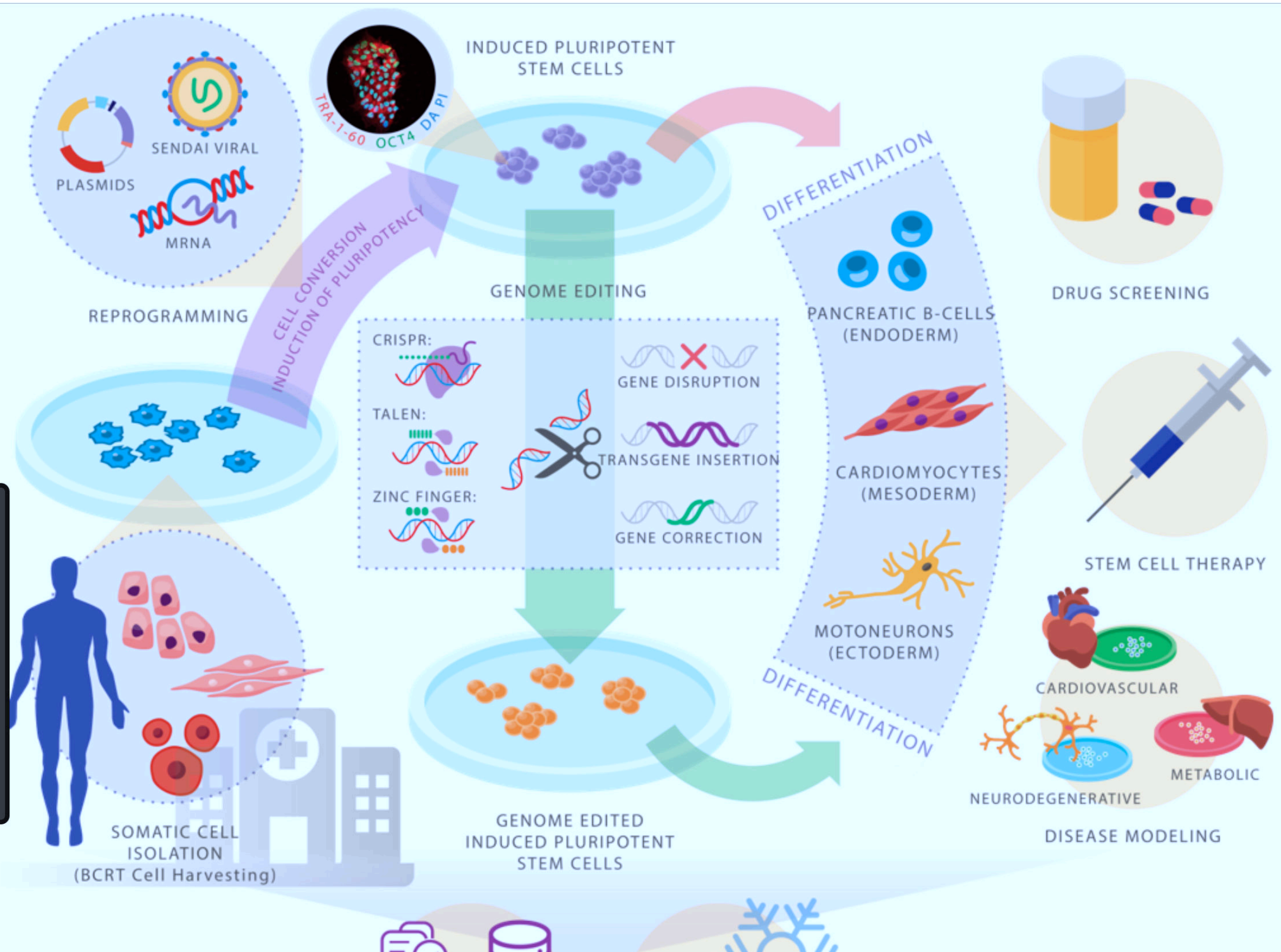


Stem cell









Exploring PCR

Explore PCR Applications

- Mutagenesis
- Cloning
- Sequencing
- Genotyping
- Gene Expression
- Pathogen Detection
- Multiplexing

10^9 copies of DNA are made after 30 cycles of PCR in 1 reaction.

Explore different types of PCR

1 Quantitative PCR

- 84% of researchers doing qPCR use a Hot-Start DNA Polymerase.
- 79.1% analyze qPCR data by the Standard Curve Method.
- 41.2% use pre-developed assays.

Probe-Based Chemistries

VS

SYBR[™] Technology-Based Chemistries

2 Fast PCR

Thermo Scientific[™] Phire[™] Polymerase can amplify a 1.5 Kb DNA fragment in 30 minutes.

30 minutes

3 Reverse Transcription PCR

- Reverse Transcriptases are the replicating enzymes of retroviruses.
- RT-PCR can happen in a 1-step assay or a 2-step assay.

RNA Template

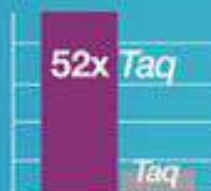
cDNA

PCR

4 High-Fidelity PCR

Thermo Scientific[™] Phusion[™] High Fidelity Polymerase is 52x more accurate than Taq Polymerase.

$\frac{1}{\text{polymerase error rate}} = \text{Fidelity}$



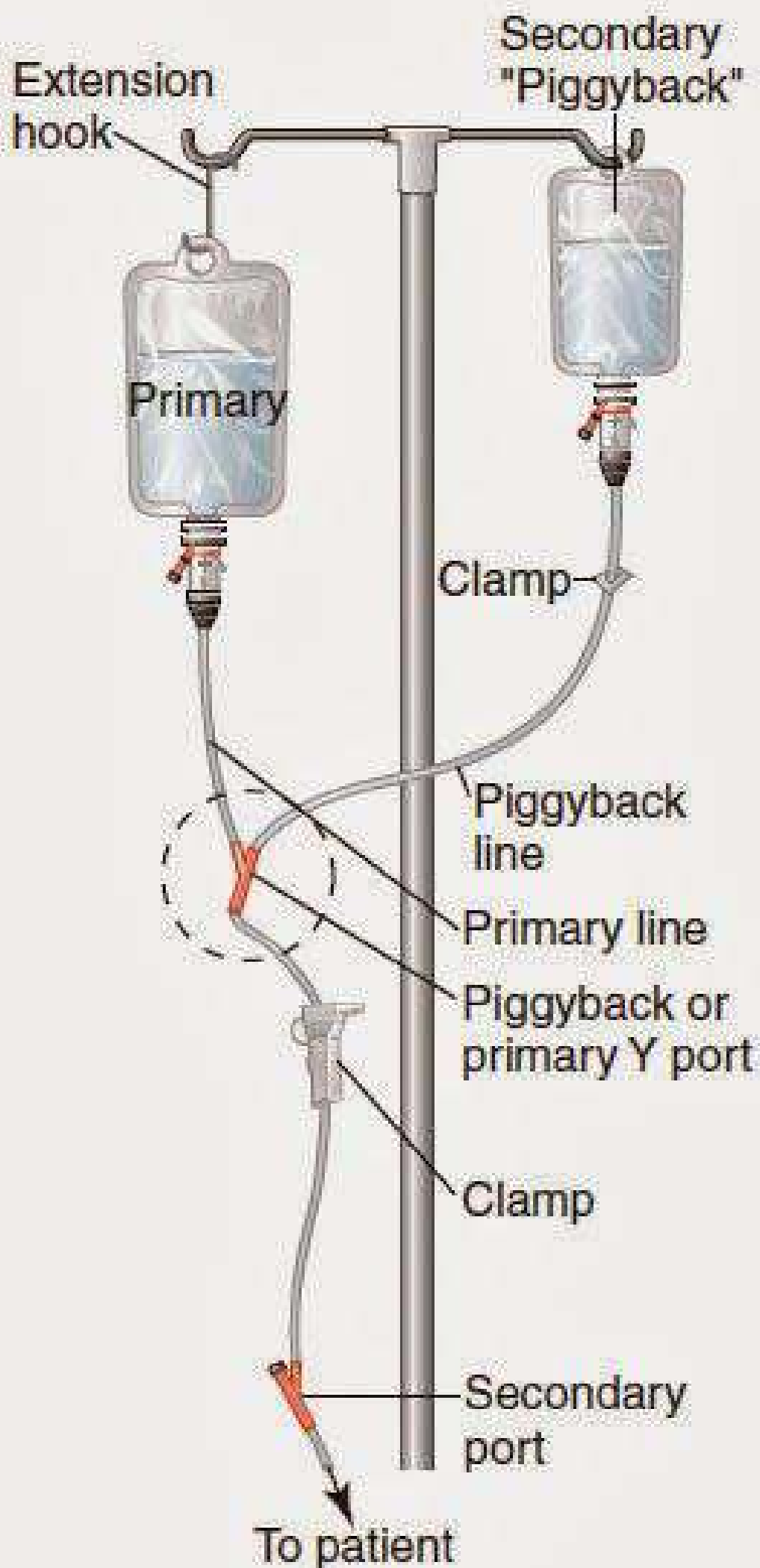
1985 PCR published in the Journal of Science.

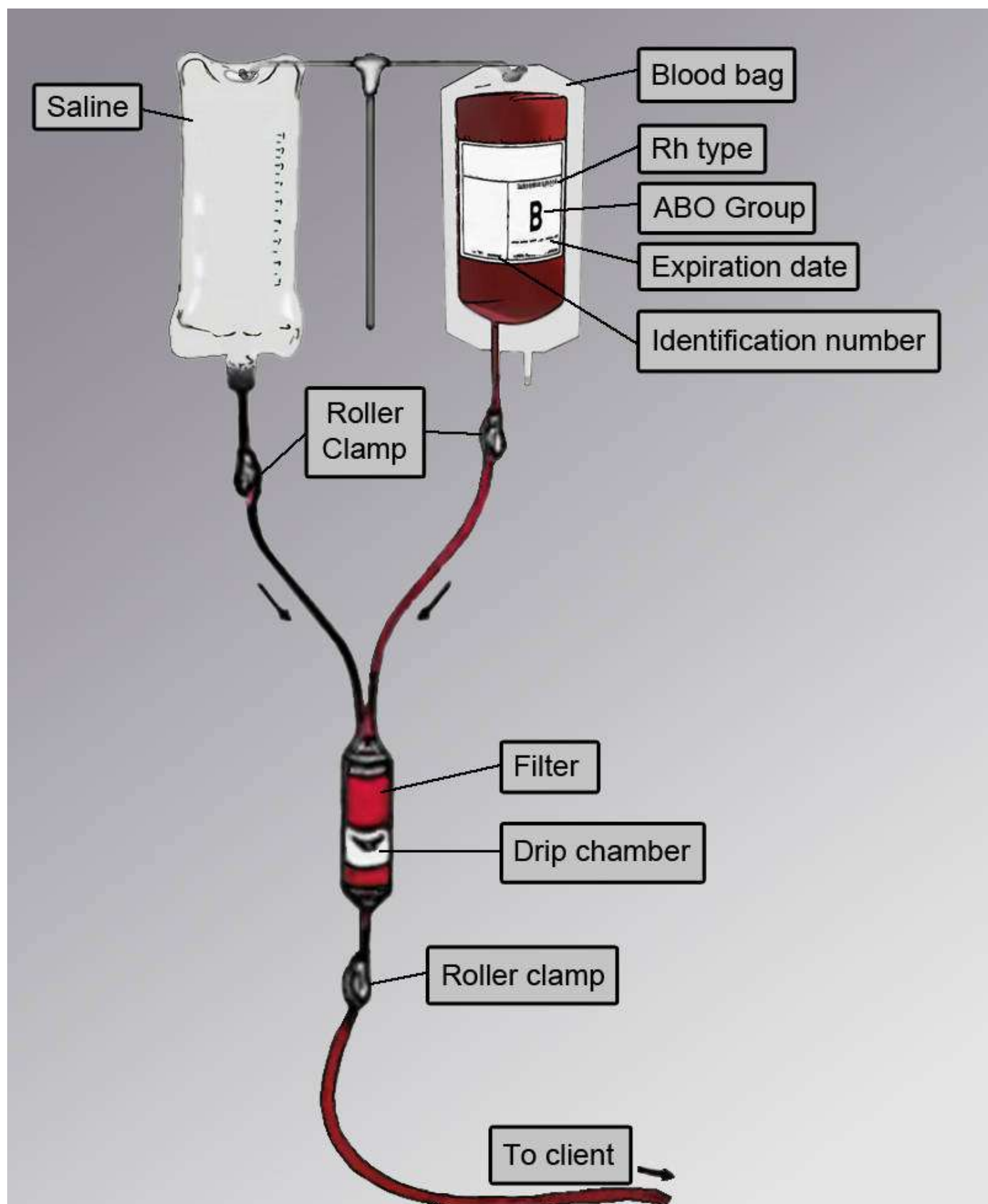
1989 TAQ Polymerase is named "Molecule of the Year" by the Journal of Science.

5 Direct PCR

No DNA purification necessary! Tissue sample goes straight into PCR tube.







General Blood Type Distribution

- **O Rh-positive, 38%**
 - **O Rh-negative, 7%**
 - **A Rh-positive, 34%**
 - **A Rh-negative, 6%**
 - **B Rh-positive, 9%**
 - **B Rh-negative, 2%**
 - **AB Rh-positive, 3%**
 - **AB Rh-negative, 1%**
- ❖ **Percentages of blood types vary by race; these are avg. % for all races combined**

What is Bombay blood group?

To understand Bombay blood group we must understand the details of blood grouping. When we say someone has blood group A, it means that the person has antigen of type 'A' and antibody of type 'B' in his/her blood. People with AB have both antigen A and B in their blood and no antibodies. People with O blood group have only antibodies A and B and no antigens. However what is not generally known is that all these groups have an antigen H in the blood as well. There are very few people who do not have this antigen H also in their blood. Instead they have antibody H because of which no other blood can be given to them.

Blood Groups (Antigens and Antibodies)		
Blood Group	Antigens	Antibodies
A	A,H	B
B	B,H	A
AB	A,B,H	-
O	H	A,B
Bombay Blood Group	-	A,B,H

About Bombay Blood Group

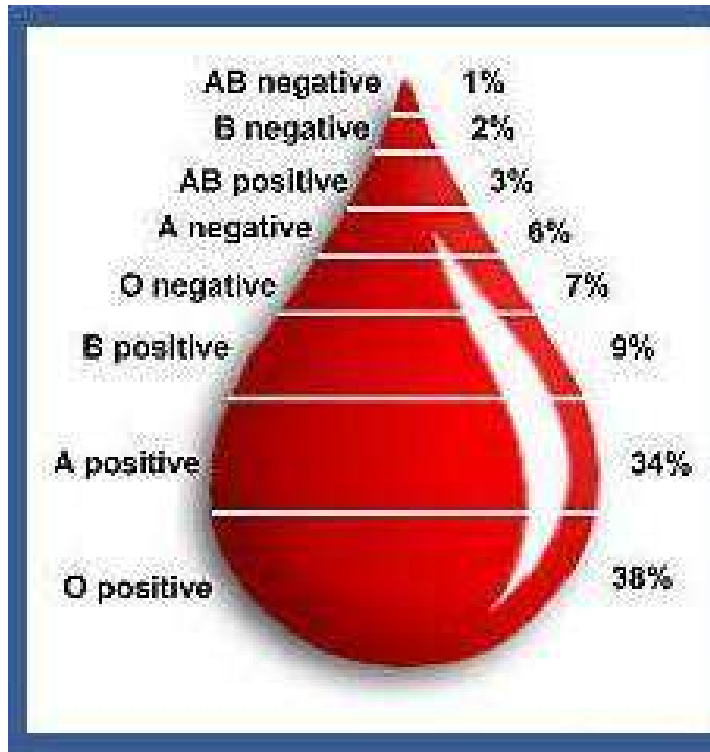
Most of us are not aware about such blood group's existence on this planet. Bombay blood group is named so because the first case was found in Bombay (now Mumbai), the financial capital of India.[1] This group is commonly mistaken as "O" group and many times not identified at all because of lack of necessary technology in blood banks. Bombay blood group differs from O blood group by lacking H antigen on RBCs. It could be Rh positive or Rh negative.[2]It's one of the rarest blood groups in India as well as world. 1 in every 17600 people in India or 1 in every 25000 people in the world has this blood group.[3] We Indian are lucky as the frequency is more here with respect to the world. It is believed that this blood group resulted from gene mutation in Indian population and slowly was spread all over the world. City like Mumbai has got only 35-40 blood donors with this blood group. [4] Totally 179 people are known to have Bombay Blood group in India. [6]

What is Bombay Blood Group?

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Blood Groups(Antigens and Antibodies)

Blood Group	Antigens	Antibodies
A	A,H	B
B	B,H	A
AB	A,B,H	-
O	H	A,B
Bombay Blood Group	-	A,B,H

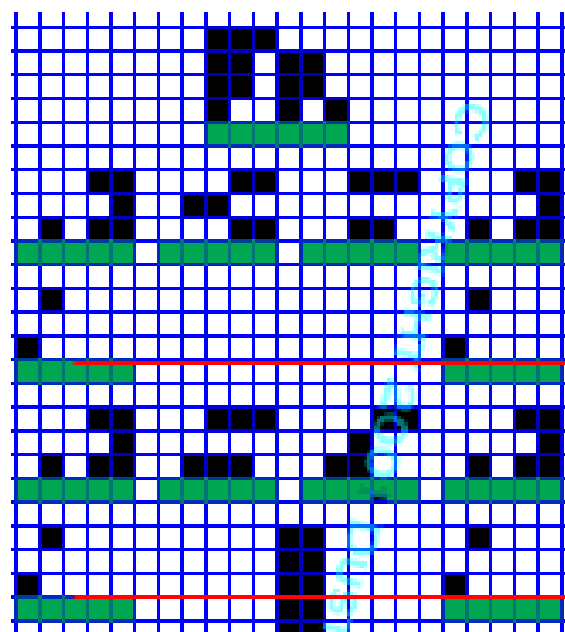


If Your Blood Type Is...

Type	You Can Give Blood To	You Can Receive From
A+	A+ AB+	A+ A- O+ O-
O+	O+ A+ B+ AB+	O+ O-
B+	B+ AB+	B+ B- O+ O-
AB+	AB+	Everyone
A-	A+ A- AB+ AB-	A- O-
O-	Everyone	O-
B-	B+ B- AB+ AB-	B- O-
AB-	AB+ AB-	AB- A- B- O-

“If mankind evolved from the same African ancestor then everyone’s blood would be compatible, but it is not. Where did the Rh- negatives come from? Why does the body of an Rh- negative mother carrying an Rh+ positive child try to reject her own offspring? Humanity isn’t one race, but a hybrid species.”

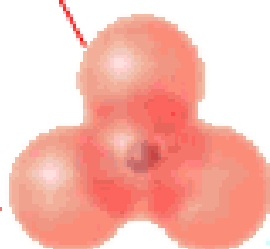
Species with Amnesia: Our Forgotten History by ROBERT SEPEHR



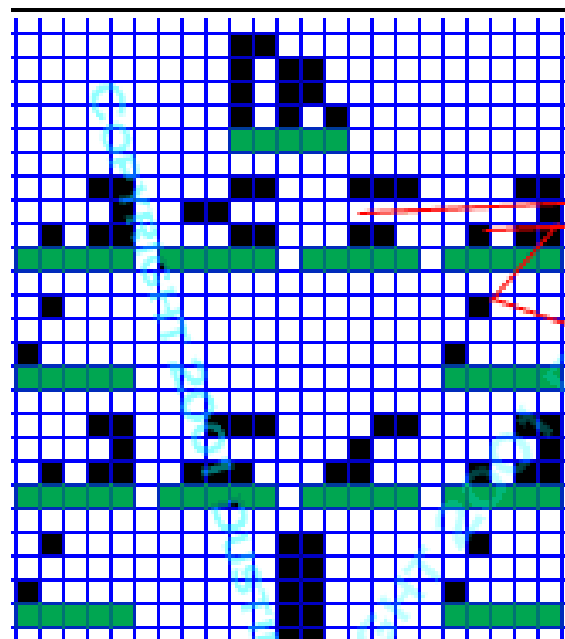
Alien Template, Chilbolton 2001

GREEN Marker blocks in Atomic Number Grid dictate how to calculate below Molecular Structure

Moving from top to bottom and right to left for each green marker block, we have Atomic Numbers
 1 = Hydrogen; 6 = Carbon; 7 = Nitrogen; 8 = Oxygen;
 14 = Silicon; 15 = Phosphorus

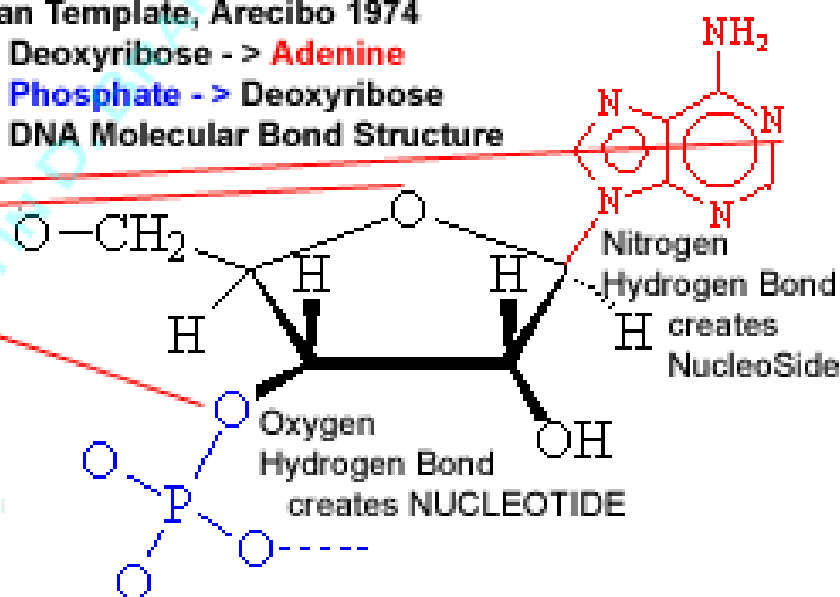


Silicon Oxygen 4 (SiO₄) Tetrahedron replaces Phosphate (PO₄) in Alien DNA between Deoxyribose creating Hydrogen Oxygen Bonds.

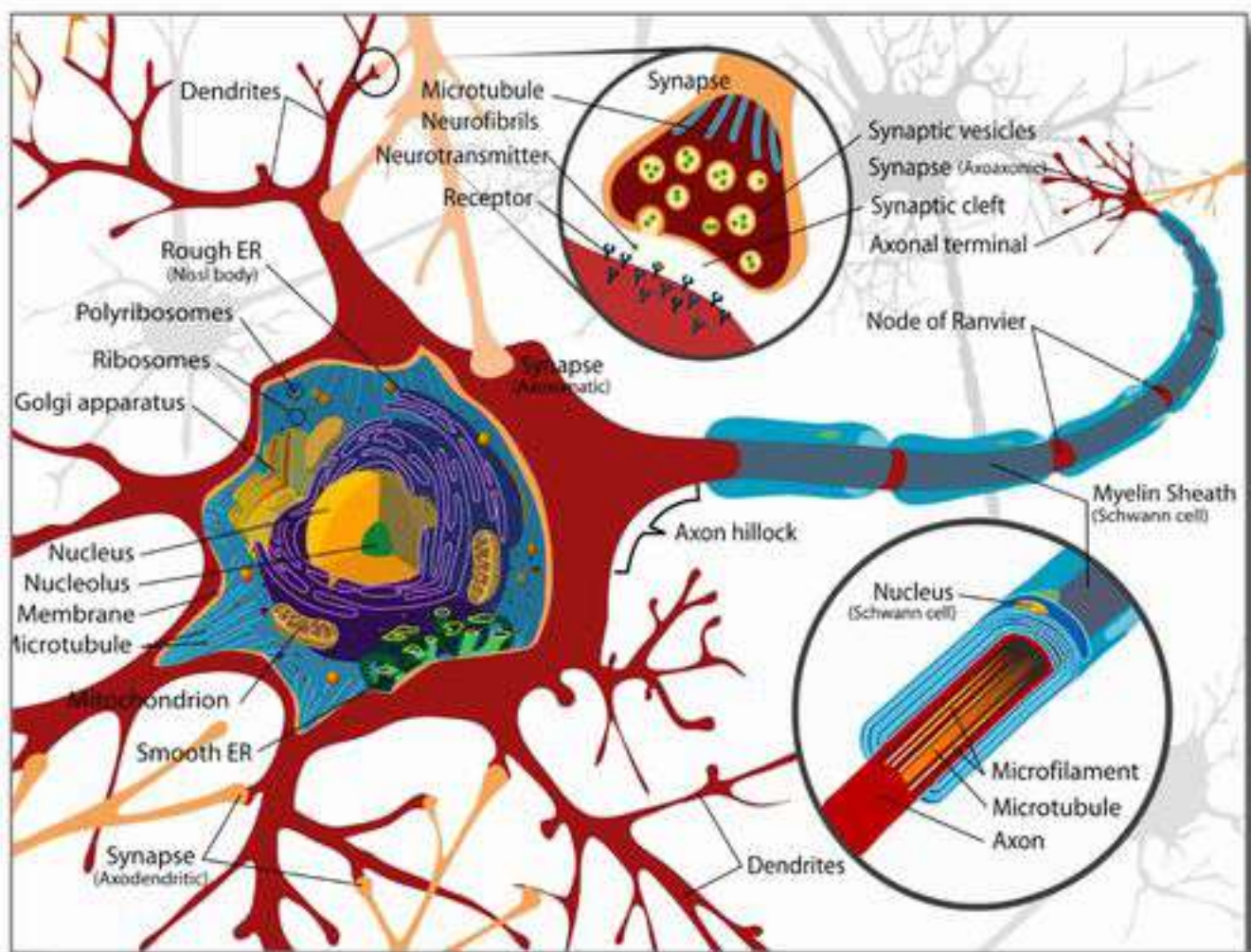


Human Template, Arecibo 1974

Deoxyribose - > **Adenine**
 Phosphate - > Deoxyribose
 DNA Molecular Bond Structure



Below atomic numbers and from right to left, we read the molecular structure as follows.
 Deoxyribose (formula H₇ C₅ O), Adenine (formula H₄ C₅ N₅), Thymine (formula H₅ C₅ O₅ N₂),
 Deoxyribose, Phosphate (formula P O₄), Phosphate, Deoxyribose, Cytosine (H₄ C₄ N₃ O);
 Guanine (formula H₄ C₅ N₅ O), Deoxyribose, Phosphate, Phosphate. We deliberately show
 - 3 Hydrogen in the formula for Deoxyribose, and -1 Hydrogen Atom for each Nitrogen Base to
 indicate the complete molecular structure and the hydrogen bonds between each of them.



How DNA works

The defining moment for DNA was the discovery of its structure in 1953. Main functions of DNA, the genetic material that forms chromosomes in a cell nucleus:

Human cell nucleus

Contains 46 chromosomes

Chromosome

When unraveled it consists of double-stranded DNA

DNA

Held together by four chemicals called bases:

A: Adenine

T: Thymine

C: Cytosine

G: Guanine

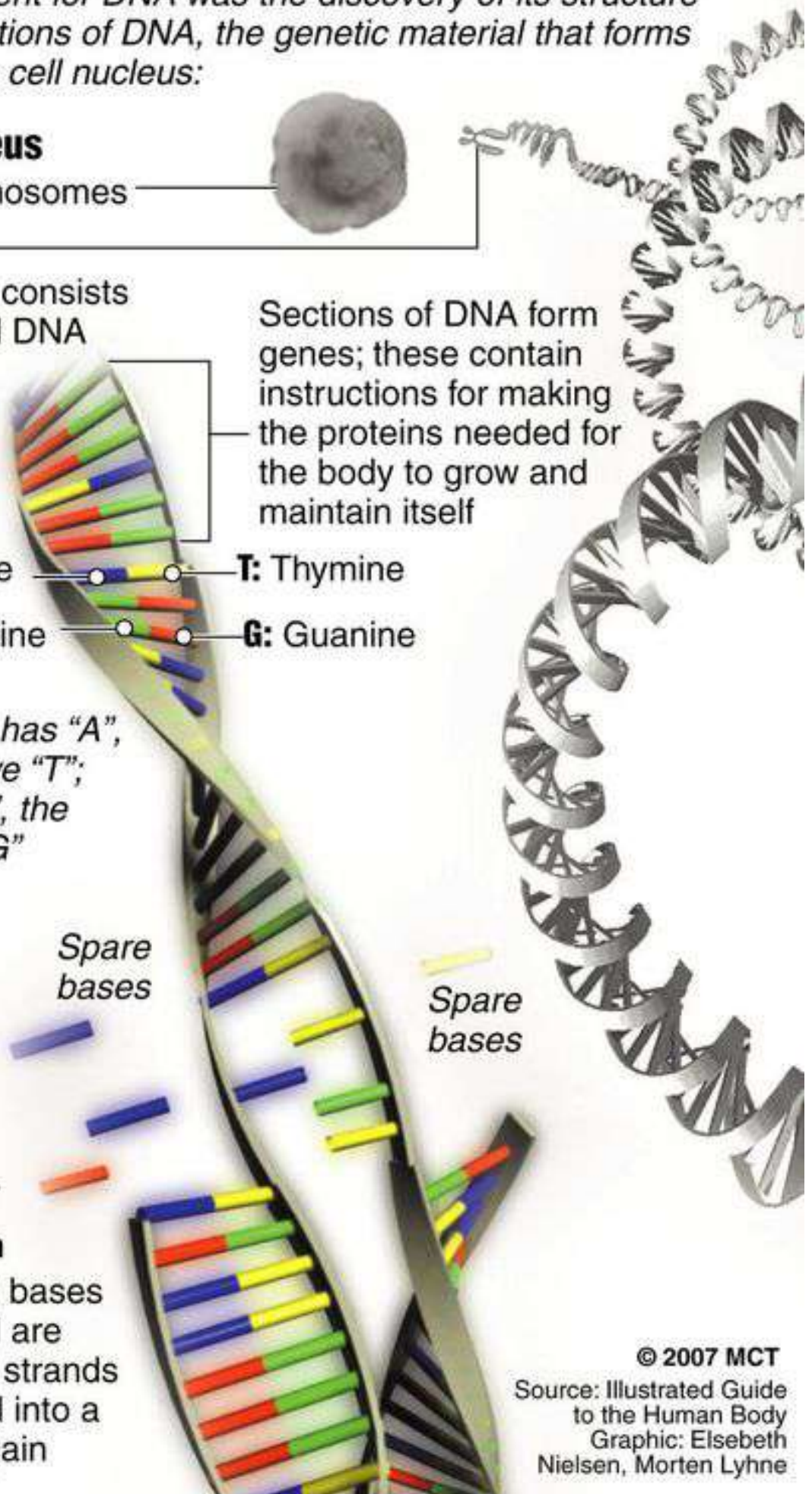
Where one strand has "A", the other must have "T"; where one has "C", the other must have "G"

Cell splits

When cell splits to make two cells, strands of DNA come apart

Double helix form

Spare free-floating bases form within the cell are added to the open strands to turn each strand into a full double helix again

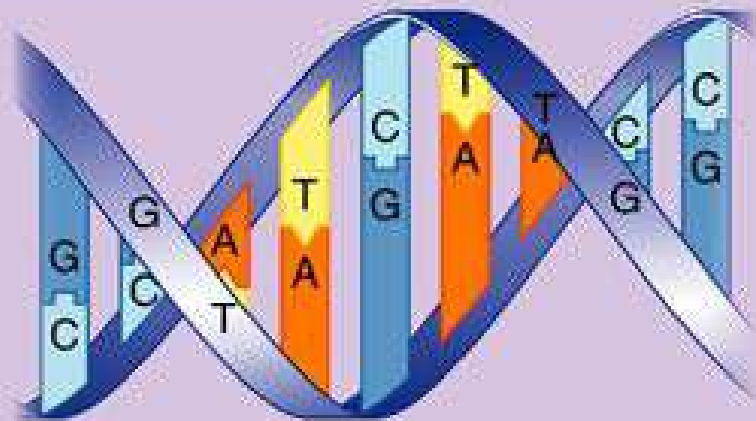


© 2007 MCT

Source: Illustrated Guide
to the Human Body
Graphic: Elsebeth
Nielsen, Morten Lyhne

Nucleus

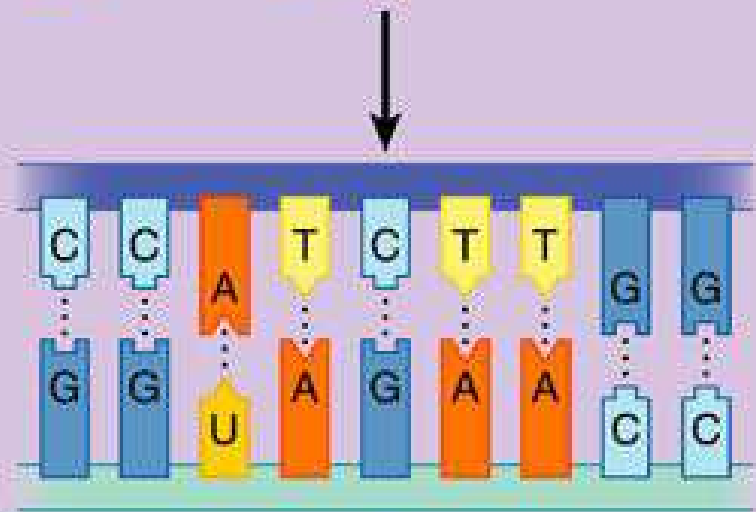
DNA
double helix



DNA

Transcription

mRNA



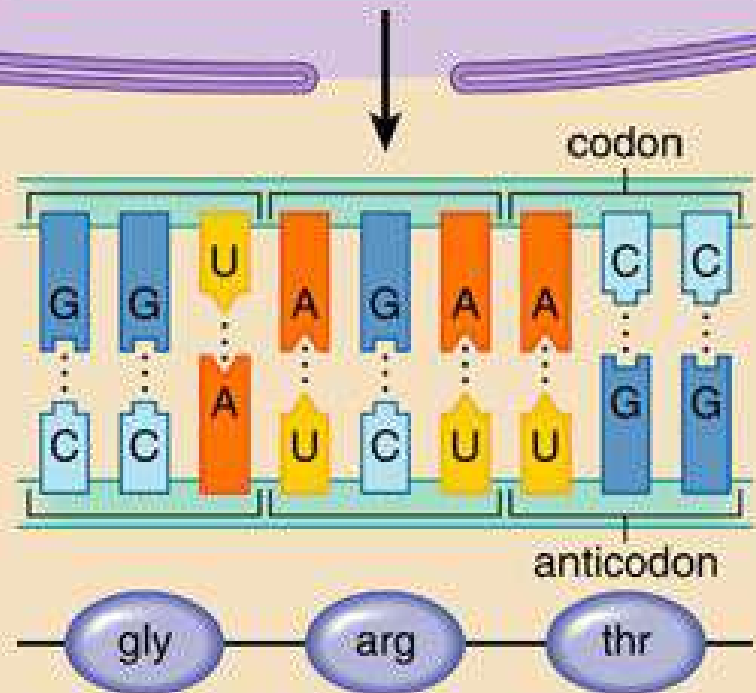
Cytoplasm

mRNA

Translation

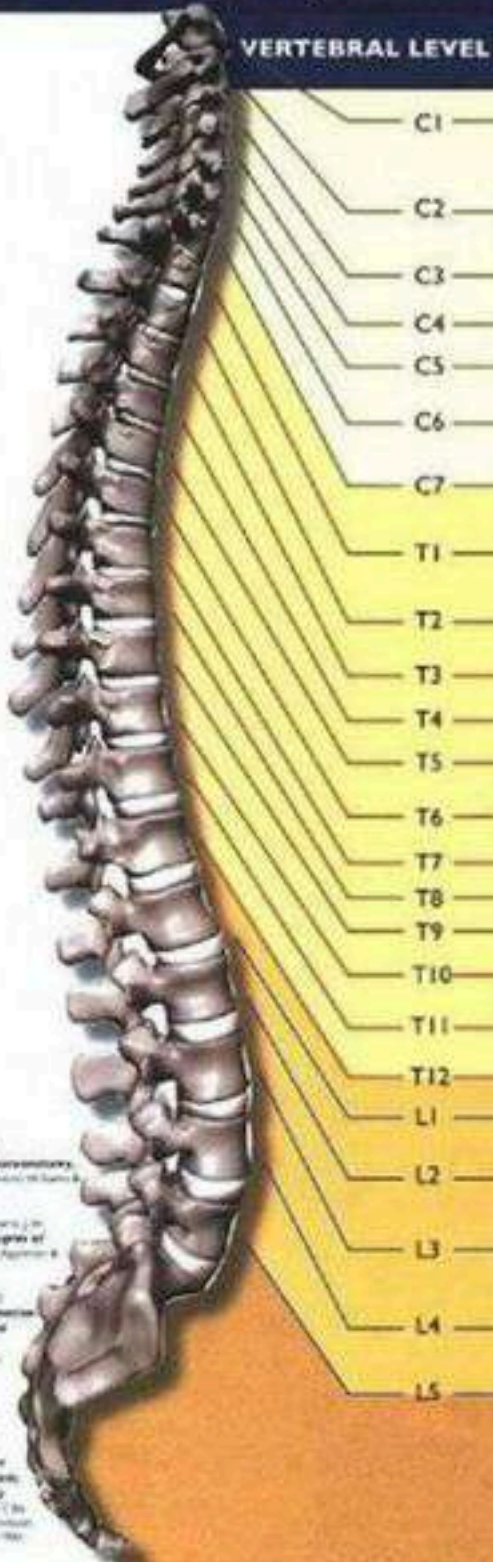
tRNA

Polypeptide



Spinal Nerve Function

Every Cell of Your Body Has a Nerve Component



VERTEBRAL LEVEL	NERVE ROOT	INNERVATION	POSSIBLE SYMPTOMS
C1	C1	Intracranial Blood Vessels	Headaches • Migraine Headaches
C2	C2	• Eyes • Lacrimal Gland	• Dizziness • Sinus Problems
C3	C3	• Parotid Gland • Scalp	• Allergies • Head Colds • Fatigue
C4	C4	• Base of Skull • Neck	• Vision Problems • Runny Nose
C5	C5	Muscles • Diaphragm	• Sore Throat • Stiff Neck
C6	C6	• Neck Muscles • Shoulders	• Cough • Croup • Arm Pain
C7	C7	• Elbows • Arms • Wrists	• Hand and Finger Numbness
C8	C8	• Hands • Fingers • Esophagus • Heart • Lungs • Chest	or Tingling • Asthma • Heart Conditions • High Blood Pressure
T1	T1	Arms • Esophagus	Wrist, Hand and Finger
T2	T2	• Heart • Lungs • Chest	Numbness or Pain • Middle Back
T3	T3	• Larynx • Trachea	Pain • Congestion • Difficulty
T4	T4		Breathing • Asthma • High Blood
T5	T5	Gallbladder • Liver	Pressure • Heart Conditions
T6	T6	• Diaphragm • Stomach	• Bronchitis • Pneumonia
T7	T7	• Pancreas • Spleen	• Gallbladder Conditions
T8	T8	• Kidneys • Small Intestine	• Jaundice • Liver Conditions
T9	T9	• Appendix • Adrenals	• Stomach Problems • Ulcers
T10	T10	Small Intestines • Colon	• Gastritis • Kidney Problems
T11	T11	• Uterus	
T12	T12	Uterus • Colon • Buttocks	
L1	L1	Large Intestines	Constipation • Colitis • Diarrhea
L2	L2	• Buttocks • Groin	• Gas Pain • Irritable Bowel
L3	L3	• Reproductive Organs	• Bladder Problems • Menstrual
L4	L4	• Colon • Thighs • Knees	Problems • Low Back Pain
L5	L5	• Legs • Feet	• Pain or Numbness in Legs
SACRAL	SACRAL	Buttocks • Reproductive Organs • Bladder • Prostate Gland • Legs • Ankles • Feet • Toes	Constipation • Diarrhea • Bladder Problems • Menstrual Problems • Lower Back Pain • Pain or Numbness in Legs

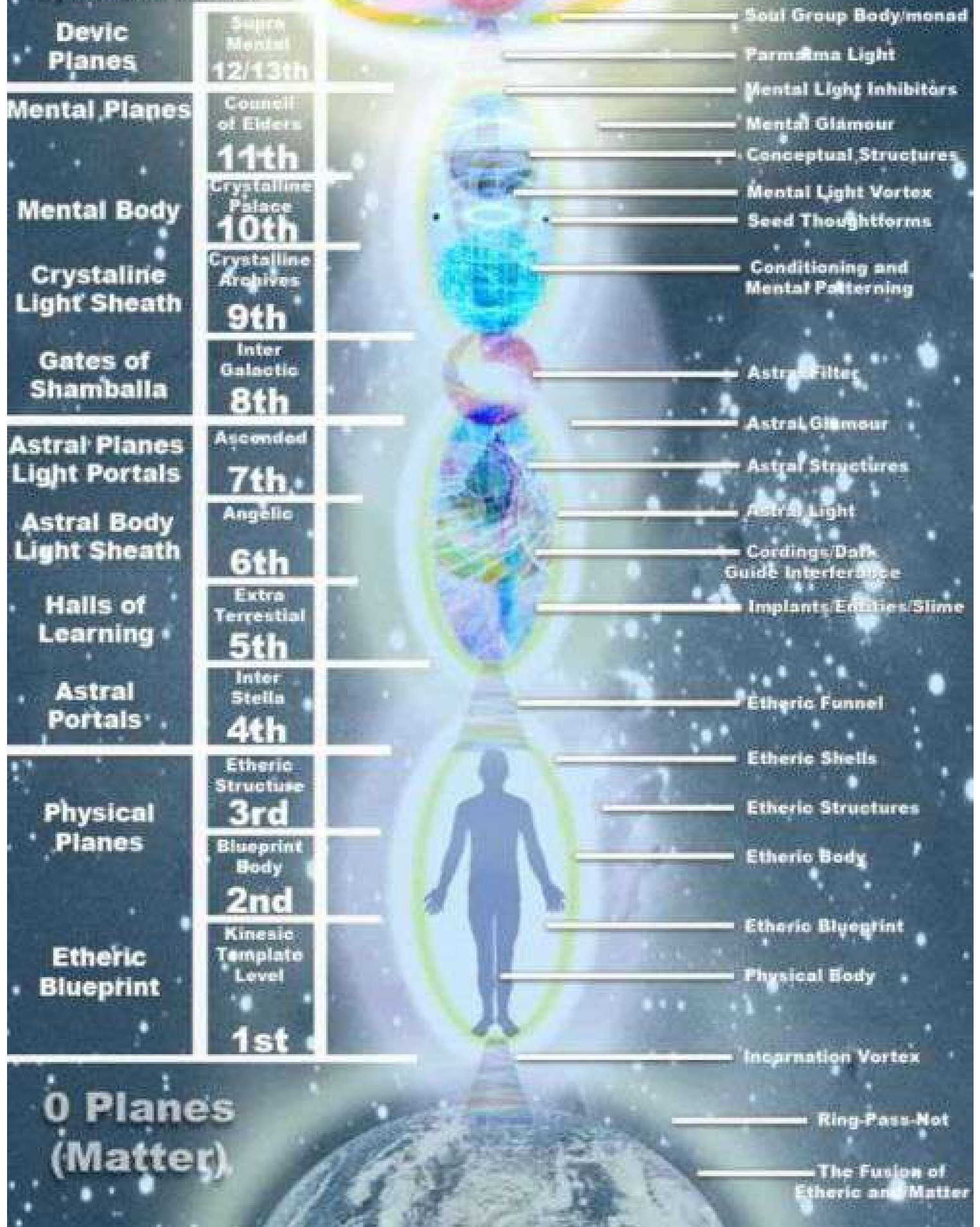
REFERENCES:
 1. J.D. Anon. *Neuroanatomy*.
 2nd Edition. Lippincott Williams &
 Wilkins, 2002.

2. Bates, J.A. *Sherris's Human
 Anatomy & Physiology*.
 6th Edition. Lippincott Williams &
 Wilkins, 2003.

3. *Regional Examination
 of the Spine and
 Extremities*.
 2nd Edition. Lippincott
 Williams & Wilkins, 1998.

4. *The Core
 Curriculum of Medical
 Neuroscience*.
 2nd Edition. Lippincott
 Williams & Wilkins, 2003.

The Descent of Spirit into Matter



Chakras 16-22

are 5th Dimensional

Platinum



Twenty Second Chakra

Blue Gold



Twenty First Chakra

Voilet Gold



Twentieth Chakra

Magenta



Nineteenth Chakra

Pink Gold



Eighteenth Chakra

Multi - White



Seventeenth Chakra

Light Voilet White



Sixteenth Chakra

Chakras 8-15

are 4th Dimensional

Light Golden White



Fifteenth Chakra

Deep Blue Voilet



Fourteenth Chakra

Voilet Pink



Thirteenth Chakra

Shimmering Gold



Twelfth Chakra

Pink Orange



Eleventh Chakra

Pearlescen



Tenth Chakra

Blue Green



Nineth Chakra

Seafoam Green



Eighth Chakra

Chakras 1-7

are 3rd Dimensional

Voilet

Aum Crown Chakra

Indigo

Om

Blue

Ham Throat Chakra

Green

Yam Heart Chakra

Yellow

Ram Solar Plexus Chakra

Orange

Yam Polarity Chakra

Lam Root Chakra

22 Chakras Chart

www.paulawratten.com



Dimensions

Chakra Colours

Chakra Sounds

Chakra Numbers

THE MAIN SIX SOLFEGGIO FREQUENCIES

396 hz

LIBERATING GUILT & FEAR

417 hz

UNDOING SITUATIONS &
FACILITATING CHANGE

528 hz

TRANSFORMATION & MIRACLES
(DNA REPAIR)

639 hz

CONNECTING/RELATIONSHIPS

741 hz

EXPRESSION/SOLUTIONS

852 hz

RETURNING TO SPIRITUAL ORDER

GET TO KNOW YOUR BRAINWAVES

GAMMA WAVES



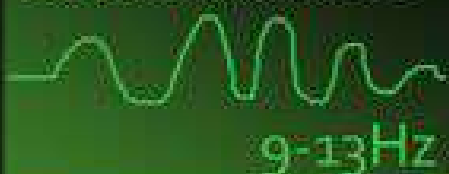
HIGH BRAIN ACTIVITY
GREAT FOR LEARNING
& DRIVING

BETA WAVES



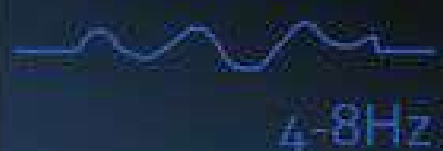
ENGAGED AND BUSY
GOOD FOR CHATTING AND
SURFING THE WEB.

ALPHA WAVES



VERY CHILL
GREAT FOR SLIDING INTO
MEDITATION AND MINDFULNESS

THETA WAVES



DROWSY AND SLEEPY
GOOD FOR NIGHT AND SLEEP

DELTA WAVES

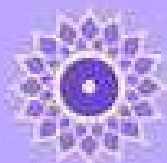
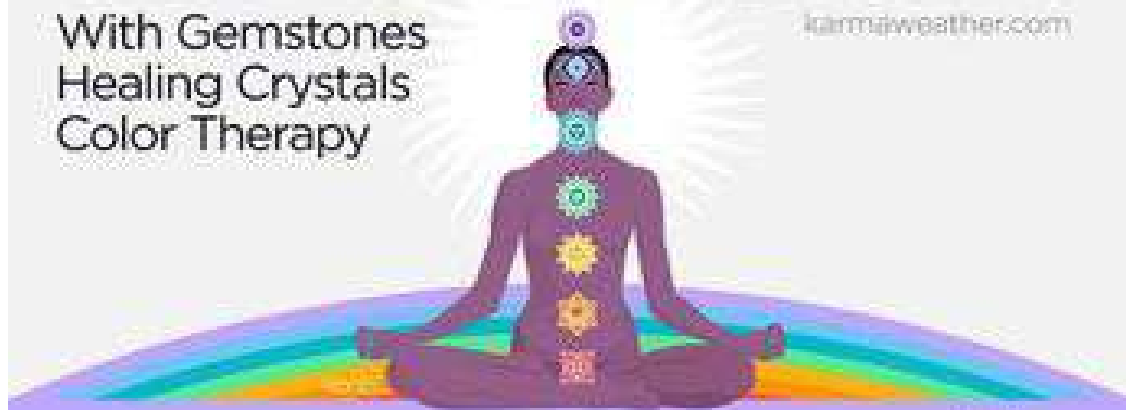


BLACKOUT

CHAKRA BALANCING

With Gemstones
Healing Crystals
Color Therapy

karmaweather.com



CROWN



Diamond



Clear Quartz



Gold



THIRD EYE



Lapis Lazuli



Amethyst



Purple Fluorite



THROAT



Turquoise



Aquamarine



Azurite



HEART



Malachite



Emerald



Pink Quartz



SOLAR PLEXUS



Yellow Citrine



Chrysoceryl



Golden Rutined Quartz



SACRAL



Citrine



Carnelian



Silver Rutined Quartz



ROOT



Fire Agate



Tiger's Eye



Hematite

KarmaWeather.
by MONA

Please note: chakra use of medical grade, or any form whatsoever, should always be considered after consultation with a doctor, a guide, or a professional bodyworker, as well as a licensed Chakra, or the same way, and should never be used as a replacement for medical treatment and/or as a substitute. They are primarily used to help you to feel better, knowing that there is no application in modern medicine.

Violet Flame in Reiki Healing

ReikiHeals.com

Request Archangel Michael to protect you. You may say, "Dear Archangel Michael, as I prepare to do this healing work, please surround me in your golden light and protect me. Thank you".

Once you are done with the full body healing, express your gratitude to Reiki, Archangel Michael and Archangel Raphael. Drink lots of water and relax.

Call upon Archangel Raphael. You may say, "Dear Archangel Raphael, please help me to remove and clear these blocks from my (or client's) energy field. Thank you".

Call upon Saint Germain. You can say, "Dear Ascended Master, Saint Germain, please help me work and heal using the power of the violet flame. Thank you".

Take three deep breaths and prepare yourself for the healing.

Invoke the Violet Flame, "Dear Violet Flame, please receive all these blocks that I am going to pour into you and transmute them into pure divine light." Imagine a violet fire burning in front of you.

Open up the fingers of your hand/hands. You may imagine them being extended so they can reach the block easily.

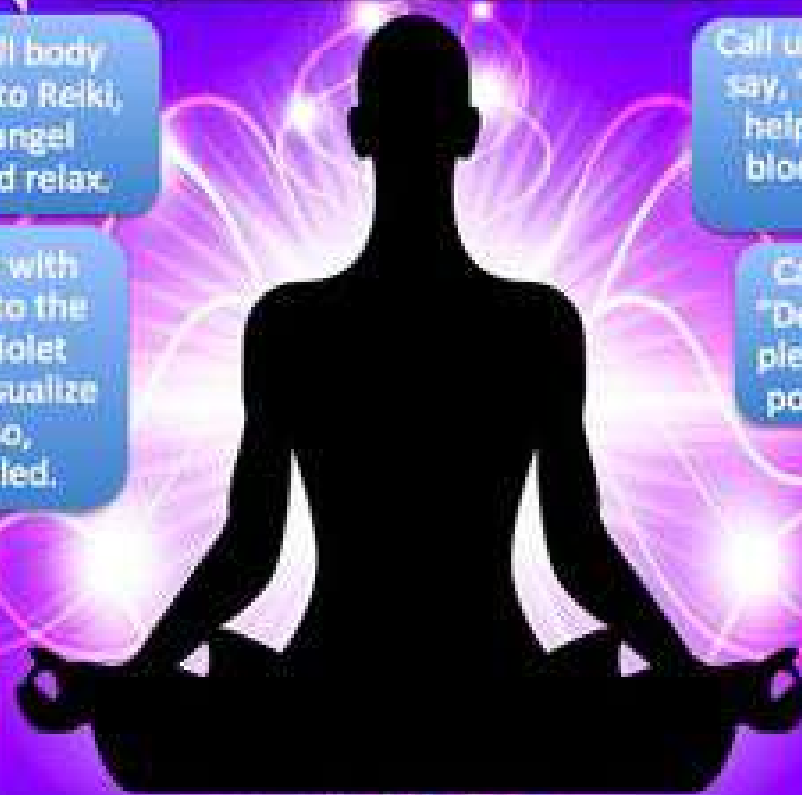
Sense the energetic block in the body and start scooping it out with your fingers.

As you scoop it out pour the energetic debris into the violet flame. As you pour the debris into the violet flame, you can visualize it being transmuted into light.

Once you decide to stop, express your gratitude to the Violet Flame and to Saint Germain.






















Now visualize the violet flame turning off. If you are using a candle, put it off.

Proceed to do a full body healing with Reiki, paying particular attention to the area that was treated with the violet flame. While treating that area, visualize it being flooded with Reiki. Also, visualize it being whole and healed.



Chakra Cleansing & Balancing Mudras & Mantras

While SEATED in Easy Pose (Cross-Legged on the Floor), VISUALIZE the CHAKRA LOCATION: its COLOUR and REPEAT the MANTRA for 3 MINUTES for EACH CHAKRA: beginning with Root Chakra...

CHAKRA NAMES, PURPOSE & LOCATION	MUDRA	PROCEDURE	MANTRA & CHAKRA COLOUR	CHAKRA SYMBOL
1. ROOT CHAKRA MULADHARA (SURVIVAL) Base of Spine, on Perineum.		Thumb & Index fingers touch. Arms Straight, hands on knees. Chakra Sound... Long L·A·A·A·M.	 LAM	
2. SACRAL CHAKRA SWADHISTHANA (CREATIVITY) Hips		Place Hands in your lap with your palms facing upwards, right palm resting on top of left. Chakra Sound... Long V·A·A·A·M.	 VAM	
3. SOLAR PLEXUS CHAKRA MANIPURA (WILL POWER) Two-Inches Below Naval		Place Hands between your heart and your stomach. Chakra Sound... Long R·A·A·A·M.	 RAM	
4. HEART CHAKRA ANAHATA (LOVE) Heart		Right Hand: Index finger and thumb touching at Heart Centre. Left Hand in same Mudra resting on the Knee. Chakra Sound... Long Y·A·A·A·M.	 YAM	
5. THROAT CHAKRA VISHUDDHA (EXPRESSION) Throat		Hands by Stomach, fingers interlaced and thumb tips touching. Focus on Throat Chakra. Chakra Sound... Long H·A·A·A·M.	 HAM	
6. THIRD EYE CHAKRA AJNA (INTUITION, WISDOM) Third Eye		Hands in front of the lower part of your breast, Middle fingers stand up tips touching, other fingers bent at first joint as shown. Chakra Sound... Long A·A·A·U·U·M.	 AUM	
7. CROWN CHAKRA SAHASRARA (SPIRITUAL CONNECTION) Crown		Hands in front of your stomach, fingers interlaced, Little fingers pointing upwards. Chakra Sound... Long A·A·A·A·N·G.	 ANG	

MEDITATION AND BRAINWAVES

Meditation has been used for thousands of years, but only in the last few decades has science begun to uncover the many benefits of meditation using sophisticated tools like neuro-imaging, functional magnetic resonance imaging, brain mapping technology, and gene research, thus allowing scientists an unprecedented ability to measure the effects of meditation on the brain and brainwave patterns.

14-24hz



Beta Waves

Beta brainwave frequencies occur in the range from 14 - 24 Hz and correspond to the typical "busy mind" experience common to most of us. The Beta frequency range is characterized by a chaotic, fragmented, unbalanced thinking typical of left brain dominance, commonly referred to as the "monkey mind."

8-13hz



Alpha Waves

The beginning of balanced brainwave activity occurs in the Alpha frequency range between 8 - 13 Hz. The more alpha waves that a person is able to produce in ordinary states of consciousness, the easier it is for them to access deeper meditative states.

4-7.5hz



Theta Waves

In the Theta frequency range between 3.5 - 7 Hz balanced brainwave activity increases. The Theta state corresponds to the experience of visionary, creative and intuitive levels of experience. It is characterized by "inner" images and visions that correlate with increased theta activity.

0.5-4hz



Delta Waves

The Delta frequency range between 0.5 - 4Hz brings a level of balance that corresponds to the "beyond the mind" experience at the subtlest levels of meditative awareness possible. This is the range in which meditators experience what is termed unified consciousness (oneness with all things).

DON'T THINK

MEDITATE

synchronicity.org/meditation

Purposes:

1. To administer required blood component by the patient
2. To restore the blood volume
3. To improve oxygen-carrying capacity of the blood.

Equipment:

- Unit of blood
- Normal saline (PNSS)
- Blood transfusion set
- Venipuncture set containing needle gauge of #18 or #19
- Alcohol and povidone-iodine swabs
- Tape
- Clean gloves



Nursing Intervention:

- Verify doctor's order. Inform client and explain the purpose of the procedure.
- Check for cross-matching and blood typing. *To ensure compatibility*
- Obtain and record baseline VS
- Note: If patient has fever do not transfuse*
- Practice strict, ASEPSIS
- At least 2 nurses check the label of the blood transfusion. Check the following:
 - Serial Number
 - Blood component
 - Blood type
 - Rh factor
 - Expiration date
 - Screening test
- Check the blood for gas bubbles and any unusual color or cloudiness

Note: Gas bubbles indicate bacterial growth Unusual color or cloudiness indicate hemolysis

- Warm blood at room temperature before transfusion.
- Identify client properly, two nurses check the client's identification
- Set up the infusion equipment, use BT set with filter. *To prevent administration of blood clots and other particles.*
- Prepare the blood bag, expose the port on the blood bag and insert the BT set, open the clamp let blood flow to the tube up the needle.
To remove air in the tubing

Note:

Blood is transfuse as a side drip to PNSS. Direct transfusion is done during emergency situation and as ordered.

Blood Shelf Life

WBC PRBC	Warm at room temperature transfused immediately	4 degree C
Washed RBC	Transfused within 1 ½ hours	4 degree C
FFP	Use immediately upon thawing	- 18 degree C
Cryoprecipitate Platelets		20 degree C



NURSING SKILLS

BLOOD TRANSFUSION/ IV THERAPY

Lecturer: Mark Fredderick R. Abejo RN, MAN

Blood Transfusion

Blood Compatibility

	<i>Compatible</i>	<i>Incompatible</i>
A	A / O	AB / B
B	B / O	AB / A
AB	A / B / AB / O	
O	O	A / B / AB

Note:

Type AB " Universal Recipient"

Type O " Universal Donor"

Blood Products for Transfusion:

Product	Uses
Whole Blood	Not commonly used except for extreme cases of acute hemorrhage. Replaces blood volume and all blood products
PRBC	Used to increase the oxygen-carrying capacity of blood
Platelets	Replaces platelets in client with bleeding disorder or platelet deficiency
Fresh Frozen Plasma	Expands blood volume and provides clotting factor. <i>Note:</i> <i>Does not need to be typed and cross-matched, contains no RBCs</i>
Albumin and plasma protein fraction	Blood volume expander Provide plasma proteins
Clotting factor and cryoprecipitate	Used for client with clotting deficiencies Cryoprecipitate also contains fibrinogen



Cannula Sizes

- **16 and 14 gauge (Orange and Grey)**
 - Used in high risk surgical procedures
 - Requires a large vein
- **18 gauge (Green)**
 - Used in trauma, surgery, blood transfusions, and for CT scan with dye
 - Requires a large vein
- **20 gauge (Pink)**
 - Most commonly used
 - Suitable for non-emergent blood transfusions
- **22 gauge (Blue)**
 - Older adults
 - Suitable for slow speed infusions
- **24 gauge (Yellow)**
 - Used in pediatrics or elderly adults

22 gauge
Ø 0,8mm



20 gauge
Ø 1,0mm



18 gauge
Ø 1,2mm

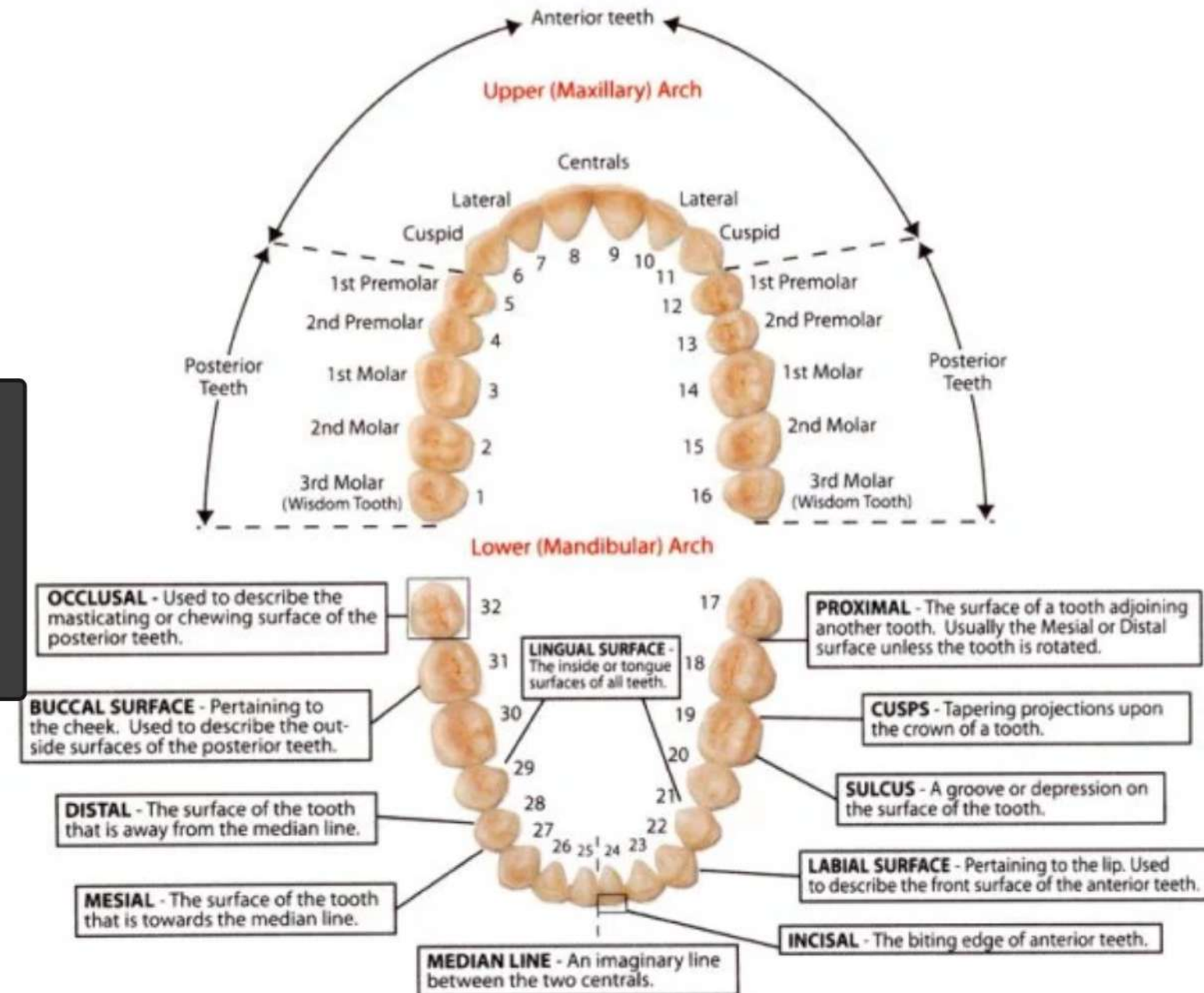


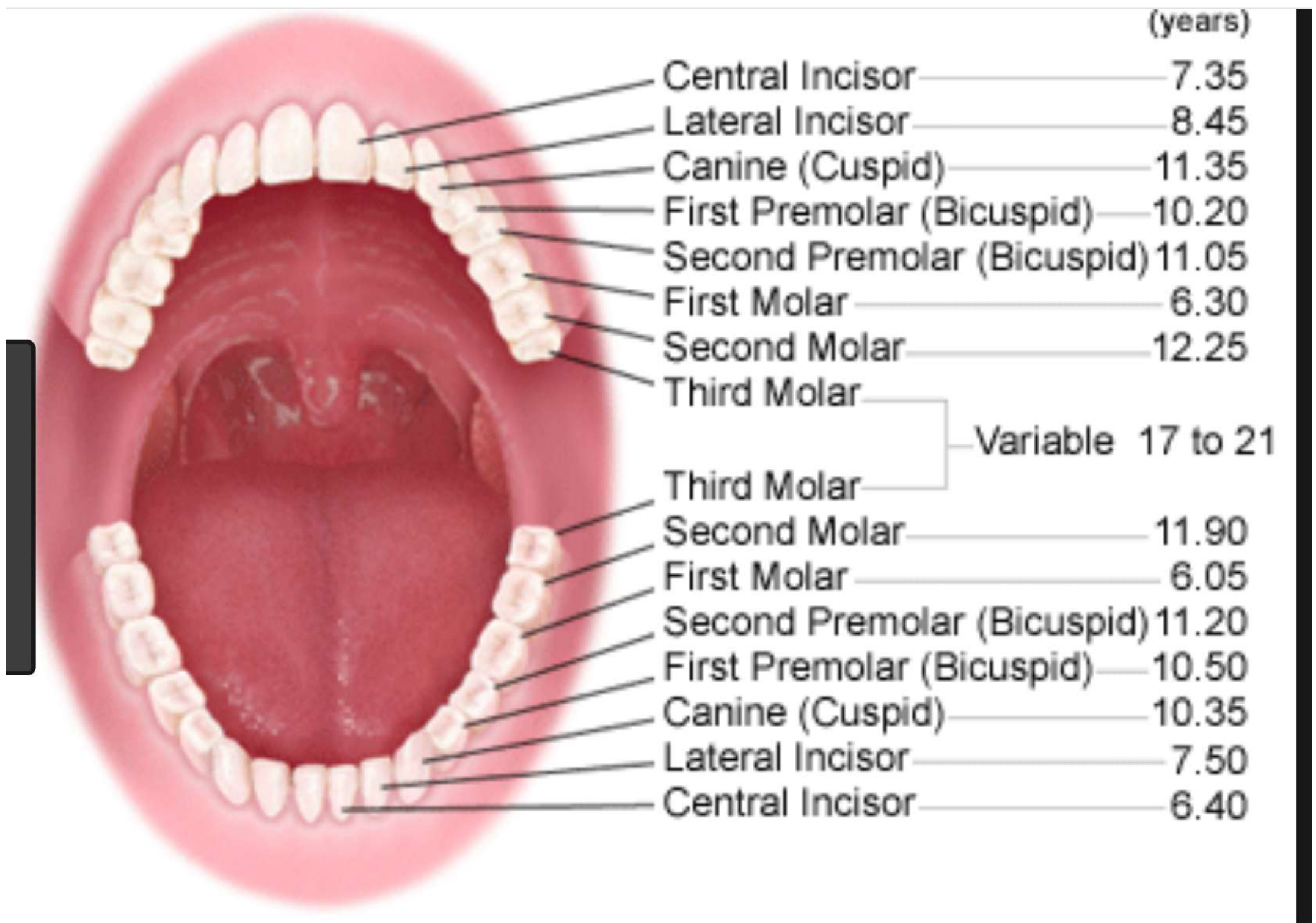
16 gauge
Ø 1,7mm



Dental Chart and Common Terminology

Use this chart to effectively communicate your questions and concerns to us





It's All in Your Mind

Learn why *your mind* is a quantum computer, defining your unique reality.

1. YOUR MIND IS A COMPUTER

Your brain is the hardware.
Your mindware is the software.



You have Unconscious and Conscious Mindware

2. YOUR UNCONSCIOUS MIND IS THE MASTER



Unconscious mindware drives ~95% of beliefs and behaviors.

Unconscious mindware processes all of the information you receive.

It selects what you consciously recognize, react to and process.

3. WHAT IS REALITY?

Our Unconscious takes in 11,000,000 bits/second of data.

It selects 126 bits/second to share with our Conscious mind.



WELCOME TO YOUR QUANTUM MIND!

11,000,000 bits/second enters your Unconscious mind

Visuals Sounds Feelings Tastes Smells

4. HOW WE FILTER OUR INFORMATION

Deletion: We delete data that doesn't match our focus or expectations.

Example: Losing track of a conversation when someone we know enters the room.

Distortion: We distort data to make it match our focus or expectations.

Example: When a penalty is called in a game. One fan sees it as right, the opposite team fan sees it as a bad call.

Generalization: We generalize data to make it fit into our categories/knowns.

Example: Categories include "jocks, nerds", "lazy, stubborn," "cool, geeky"

5. MINDWARE PROGRAMS WE USE

MetaPrograms: Infrastructure that drives behavior.

Values: Filters that drive how we think.

Beliefs: Based on experience and learning.

Decisions: Early decisions (I'm unworthy) become foundation for future decisions.

Memories: Apply past emotions to current data.

Language: Our unique way of defining our data and experiences.

Attitudes: Emotions attached to specific content.

Time & Space, Matter & Energy: We store/process everything based on time or space, matter or energy.



OUR MINDS BRING QUANTUM MECHANICS TO LIFE

At any point in time, we are presented with a limitless number of optional futures in our timeline. The data we select represents what we choose to see as reality.



CHANGE YOUR MIND, CHANGE YOUR REALITY

3 ways to leverage the power of your Quantum Mind

6. FOCUS ON WHAT YOU WANT

The mind does not process negatives.
"I can't lose this deal" = "Lose this deal" to your mind.



Say "I will win this deal."

7. SHUFFLE THE DECK

Your unconscious mind sees what it expects to see, based on patterns.



Change the way information is presented to see new trends & opportunities.

8. ASK QUESTIONS

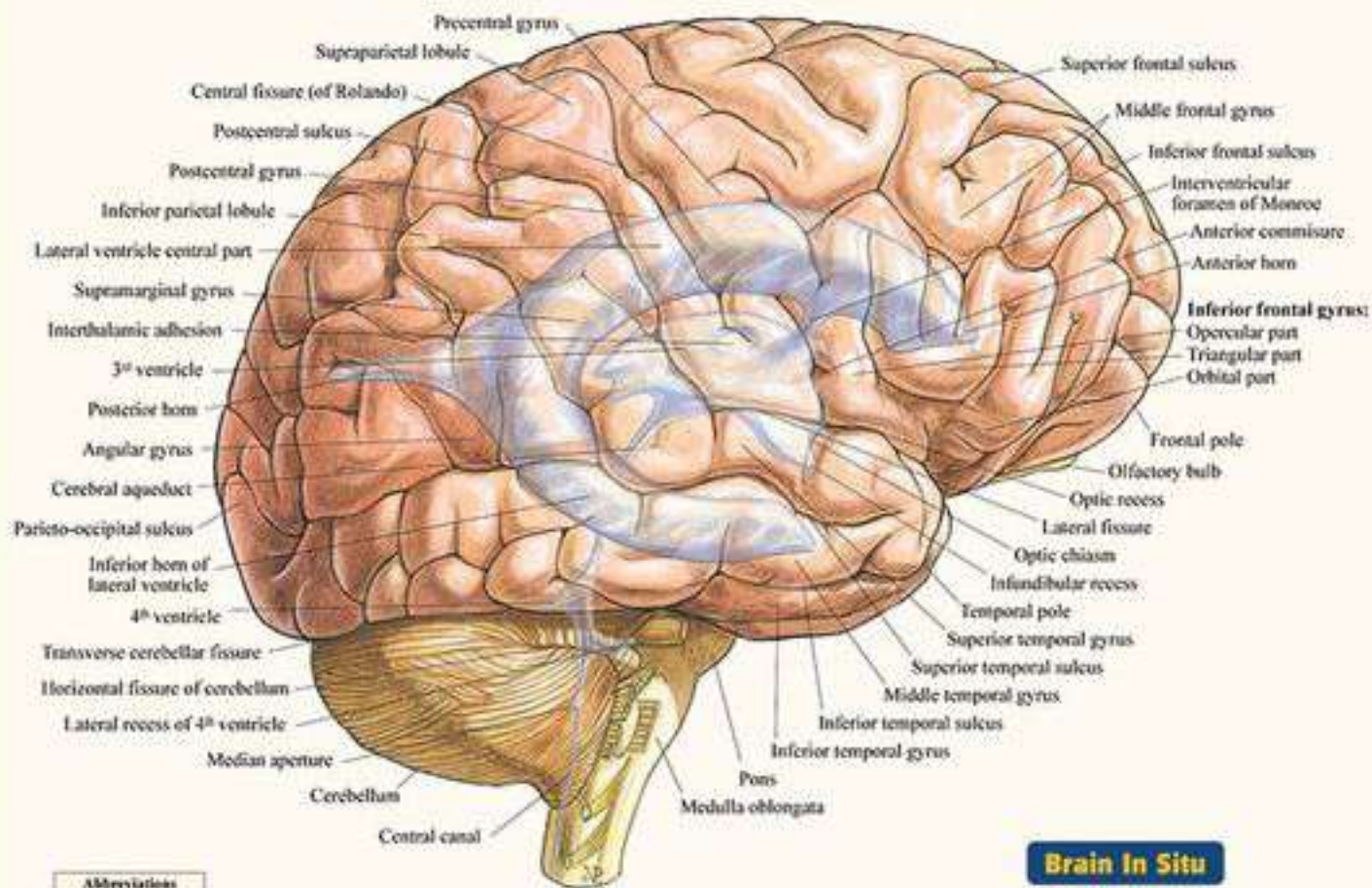
Statements focus our Unconscious on the subject.



Questions activate our Conscious to explore new insights.

BRAIN

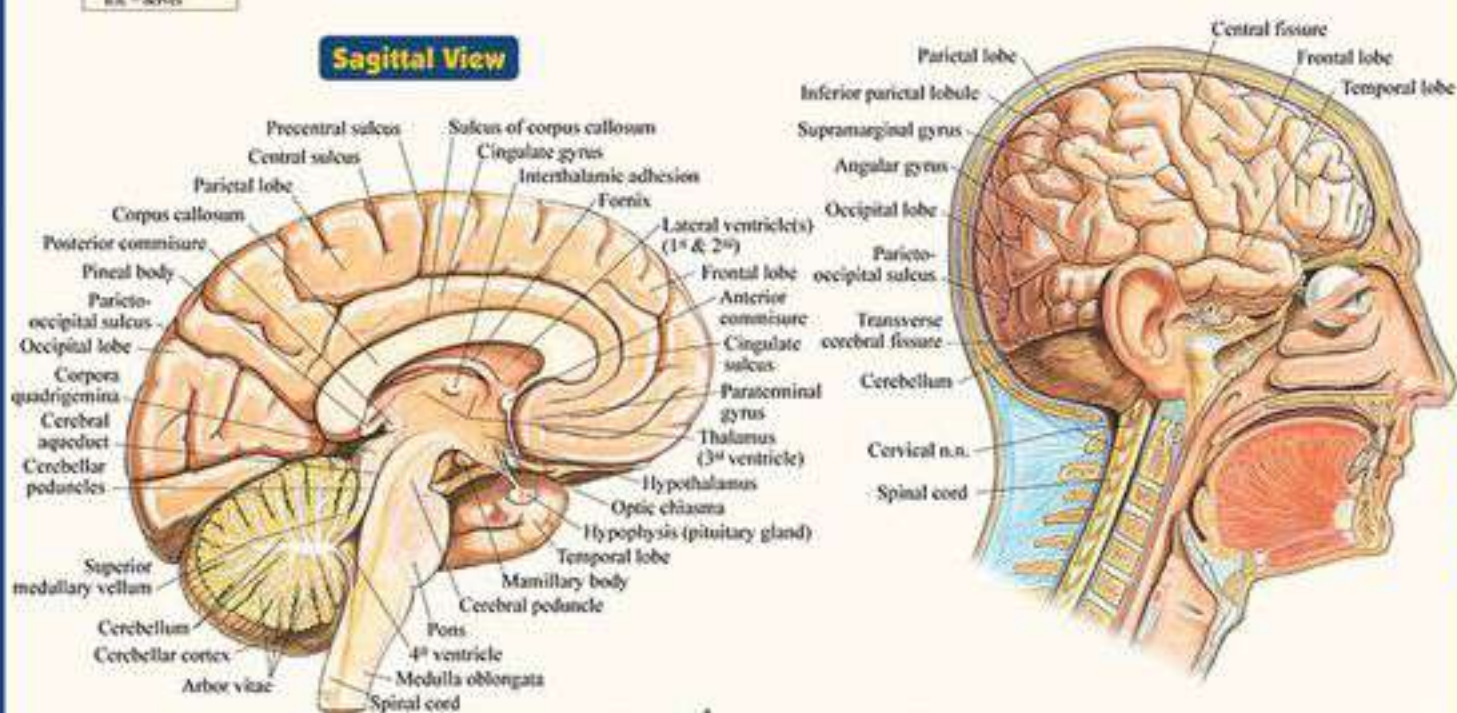
Lateral Surface & Ventricles (Brain Transparent)

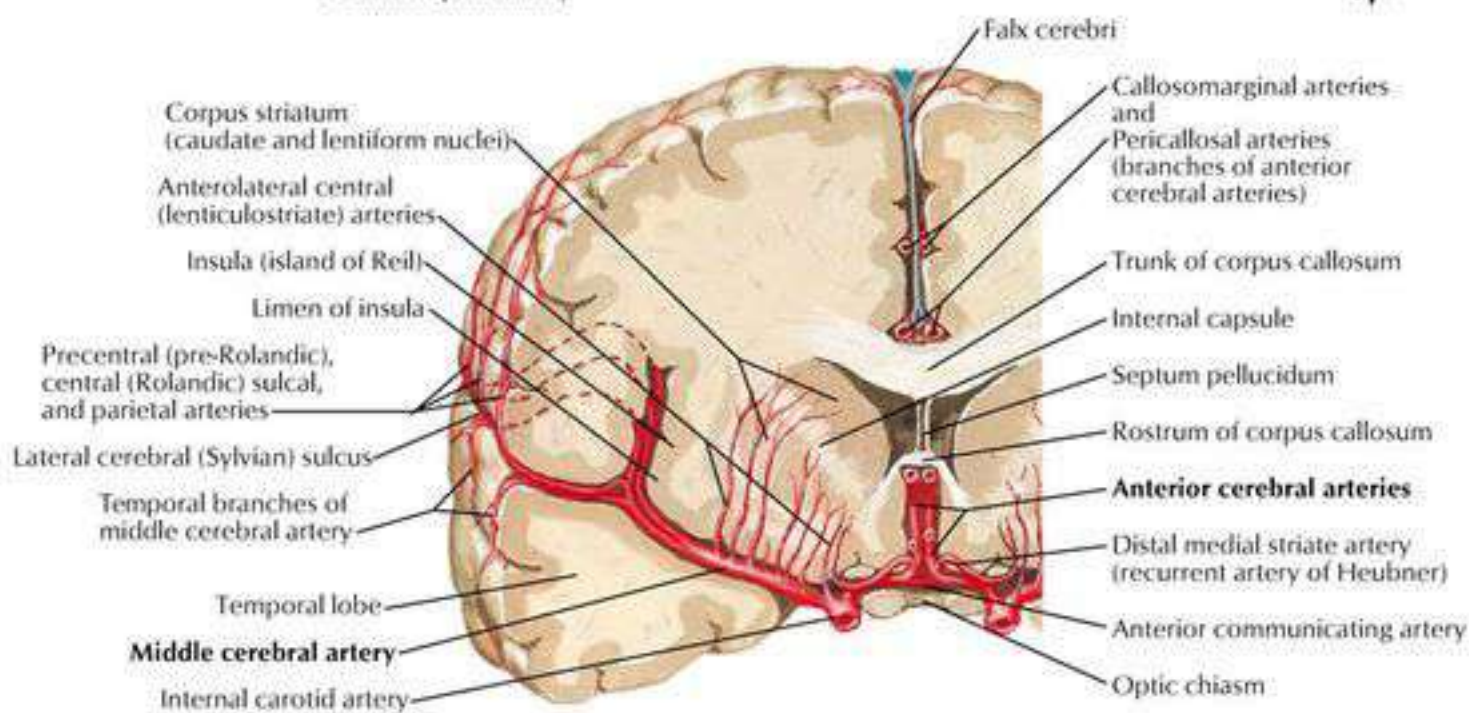
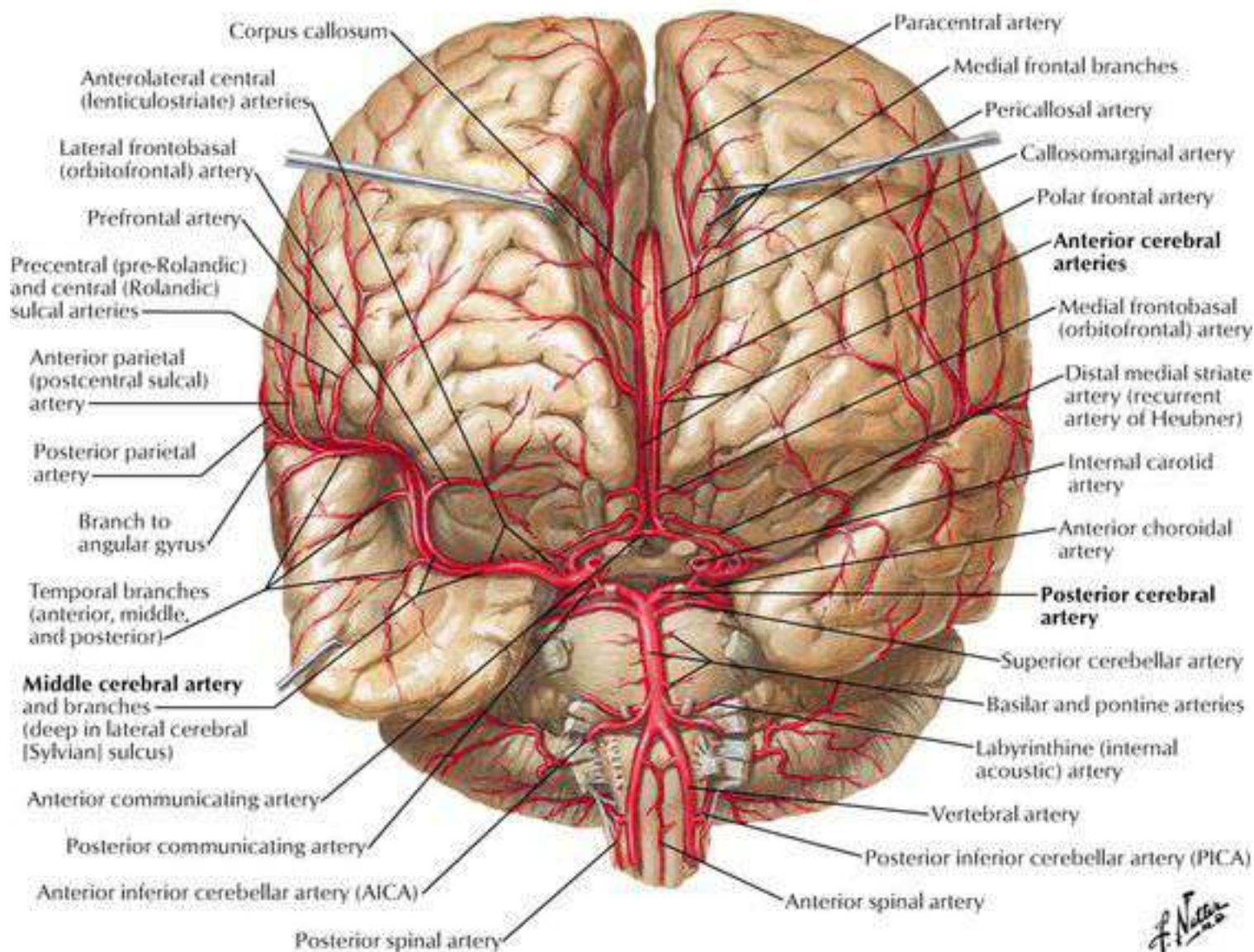


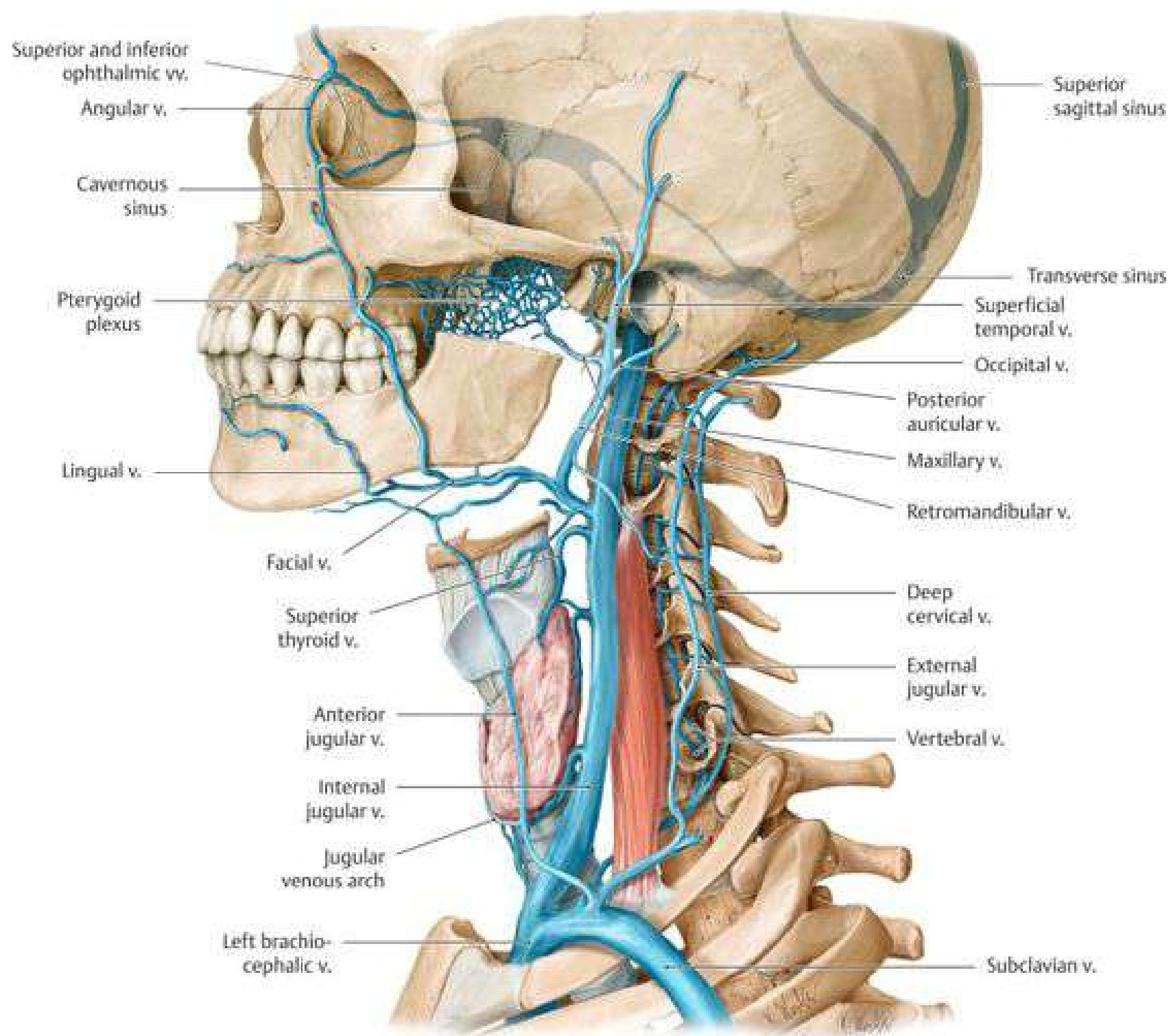
Abbreviations
R.L. = Right

Brain In Situ

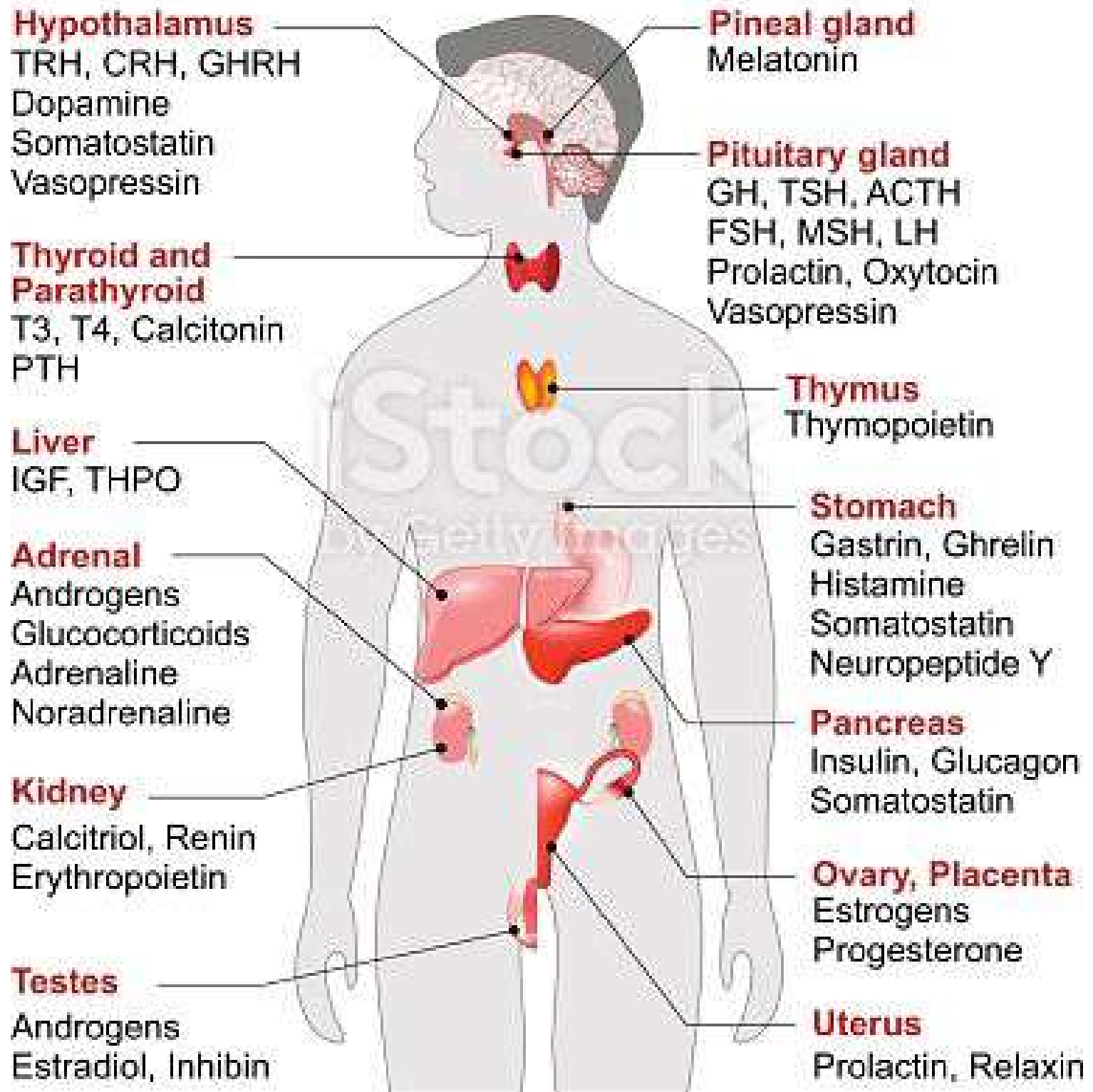
Sagittal View

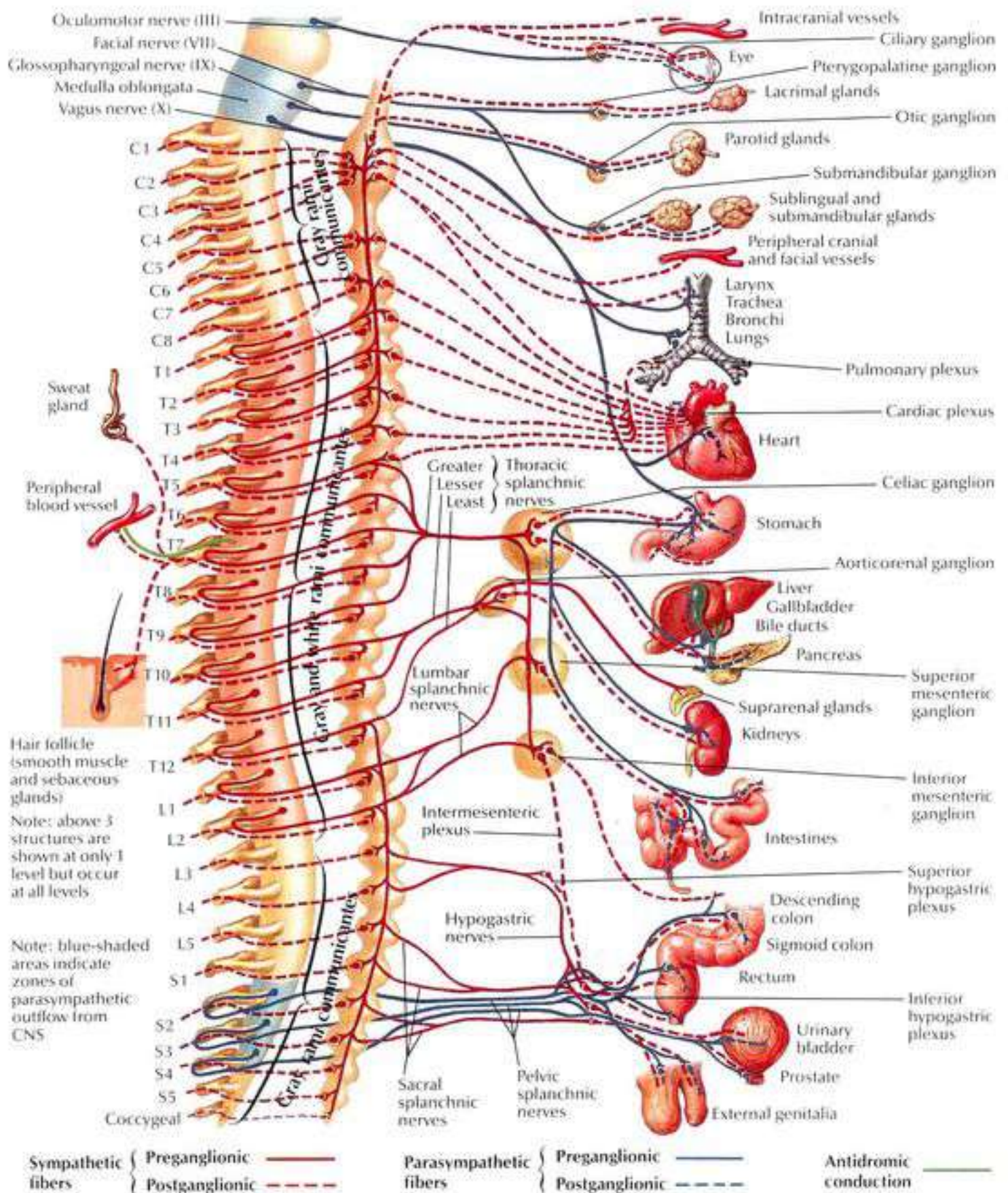


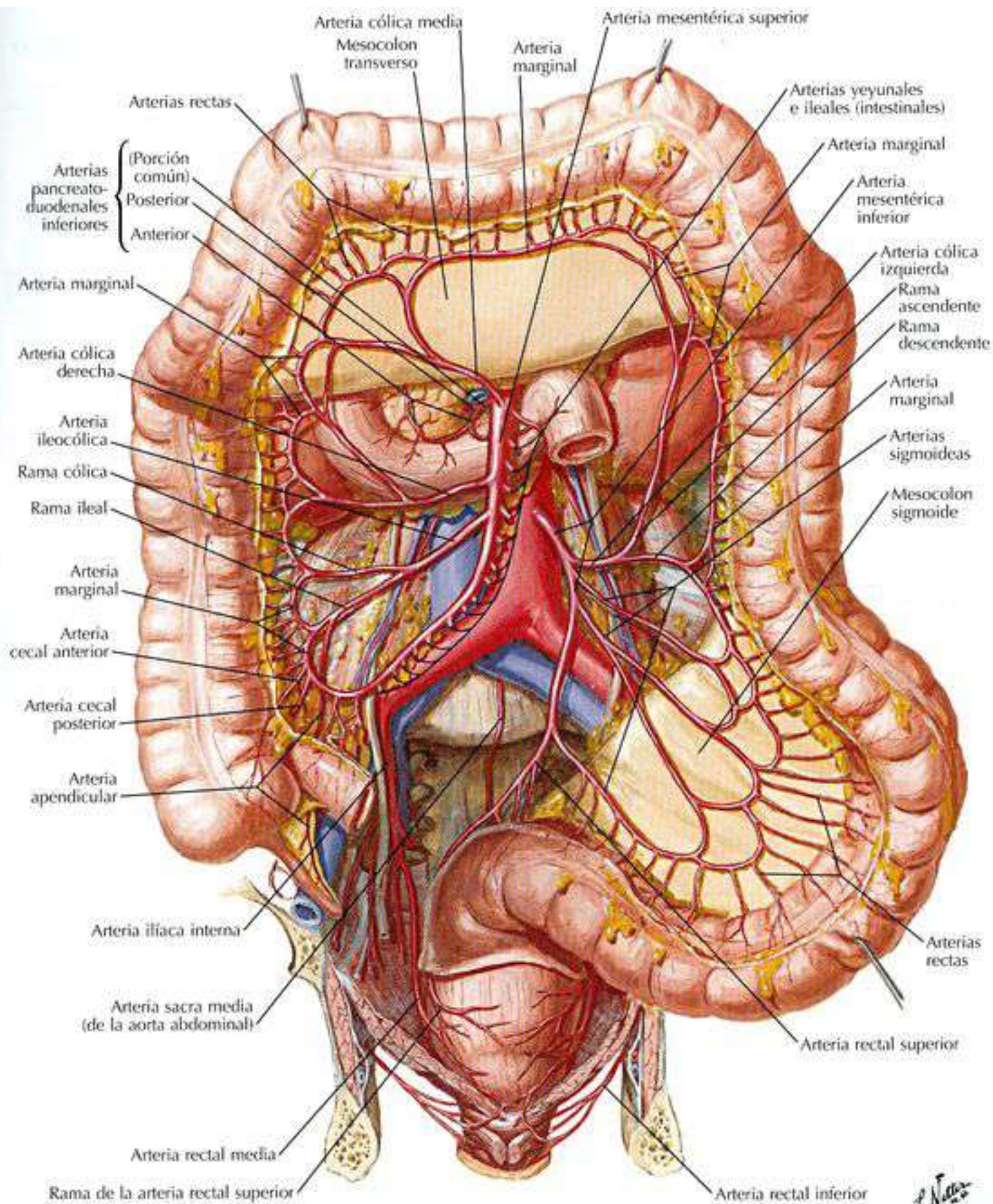




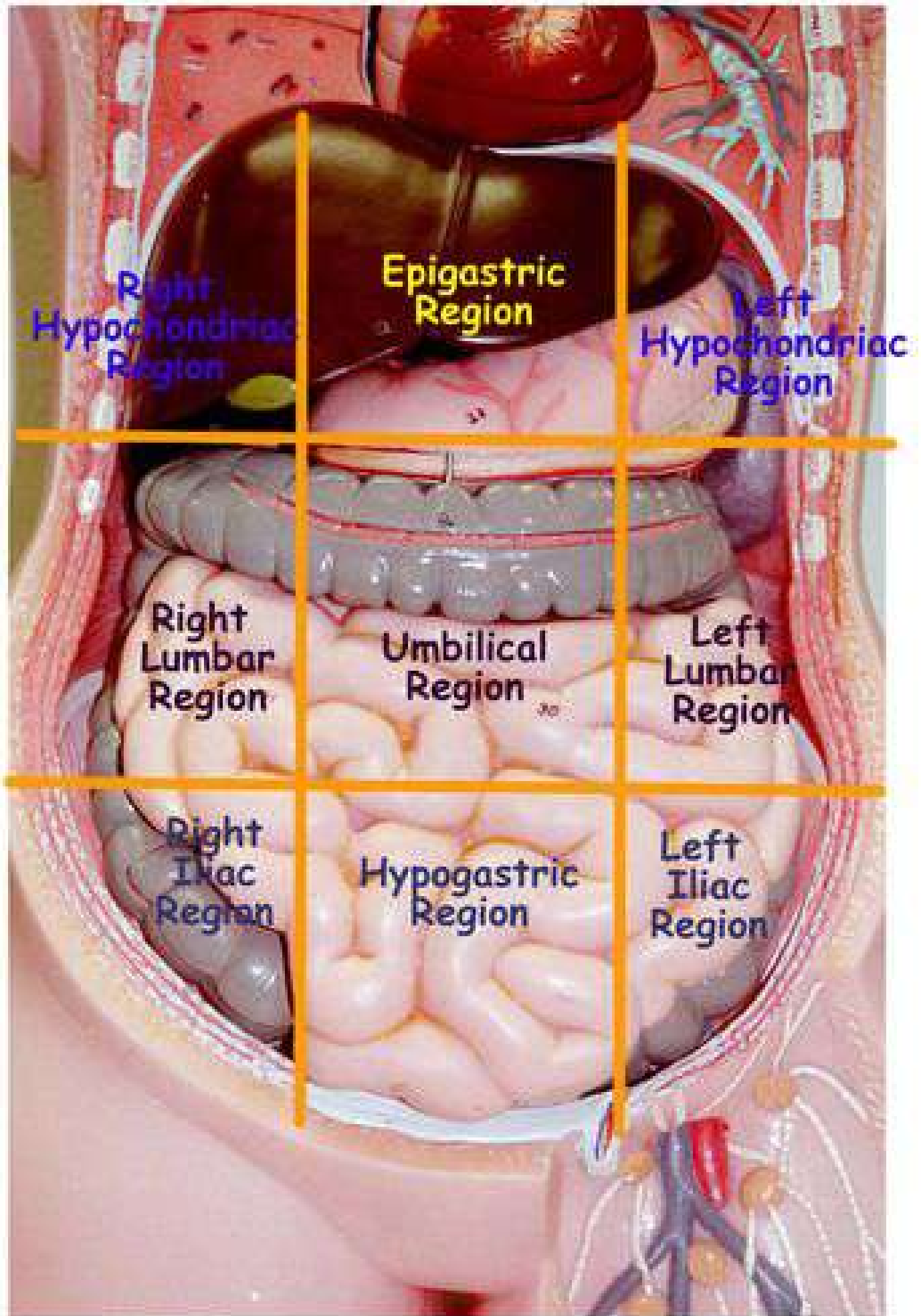
HORMONES







F. Negró



Trauma Brain Processing

1

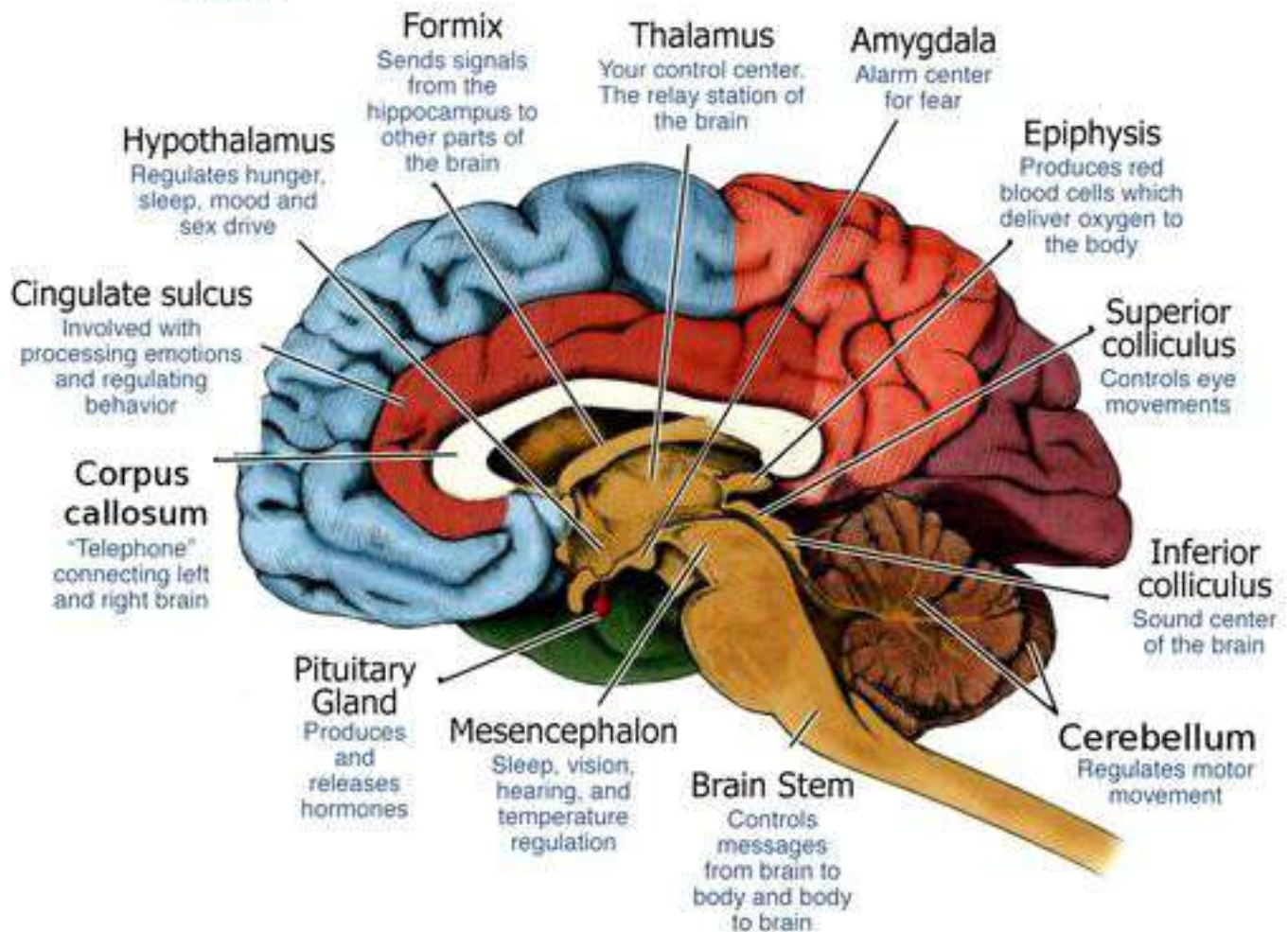
The Brain Regularly Scans for Real or Perceived Threats

Information is filtered through the limbic system, where we instinctively react with "fight, flight, or freeze."

2

When a Threat is Perceived

The amygdala alerts the hypothalamus to release stress hormones and alarms the sympathetic nervous system to fight, flight or freeze.



3

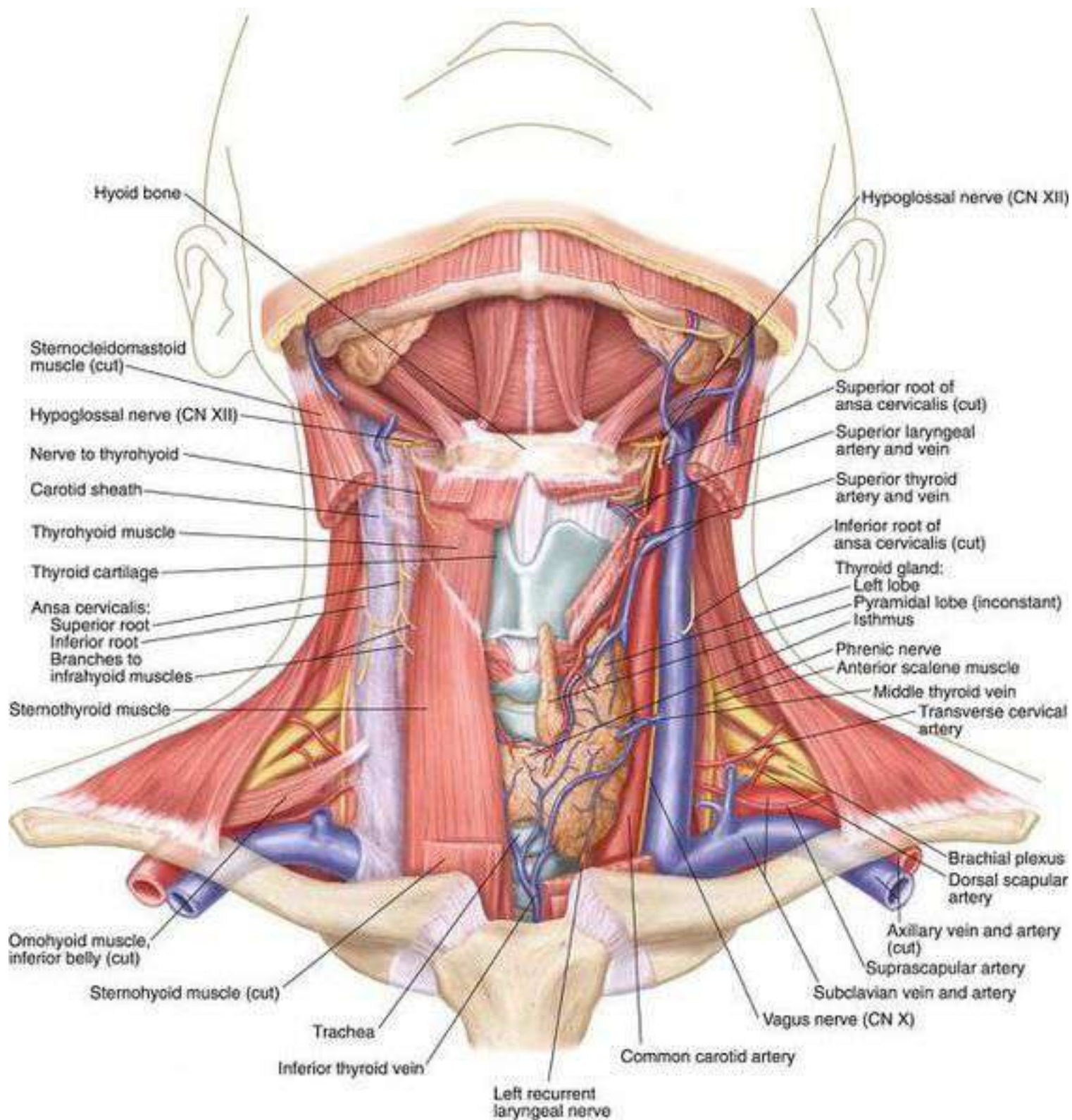
Reaction to the "Fight, Flight or Freeze" Response

Fear, frustration and heartache influence the mind, resulting in unrelated decisions, choices and reactions.

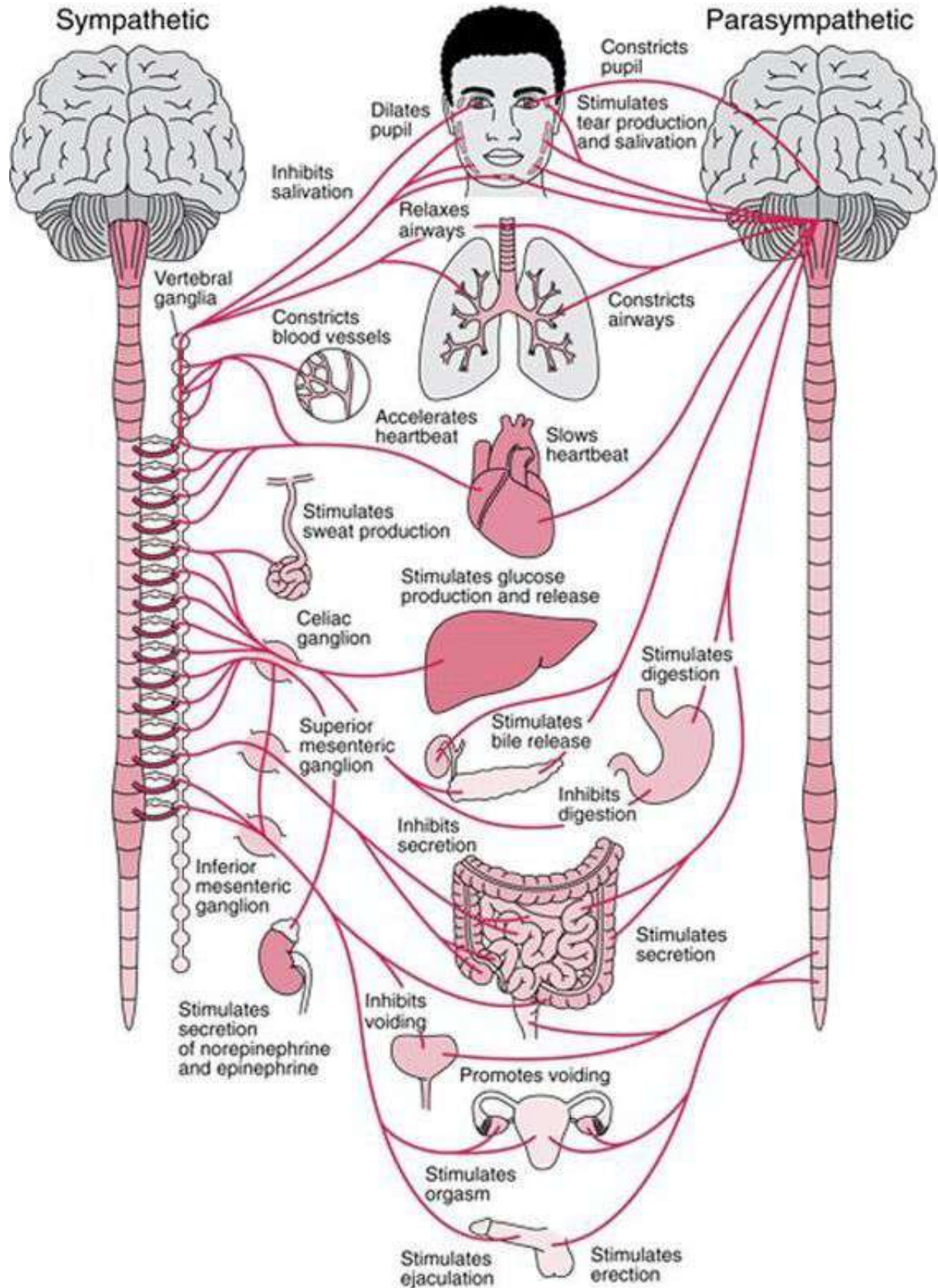
4

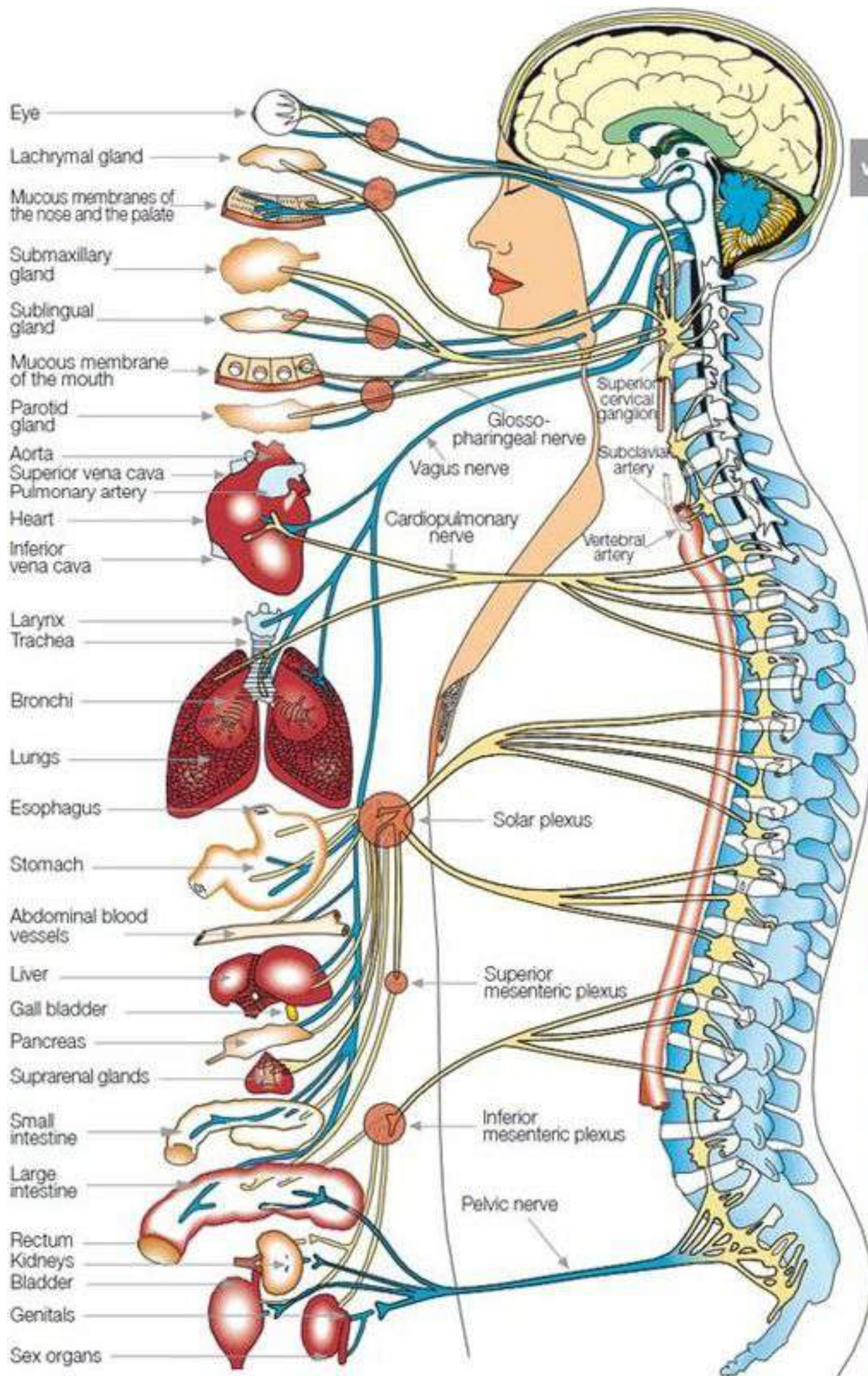
Prior Childhood and Adult Trauma Increases the Brain-Body Response

With prior trauma, the parasympathetic nervous system is automatically activated, resulting in numbing or dissociating.



Overview of the Autonomic Nervous System





VERTEBRAE

CERVICAL

- C 1
- C 2
- C 3
- C 4
- C 5
- C 6
- C 7

DORSAL

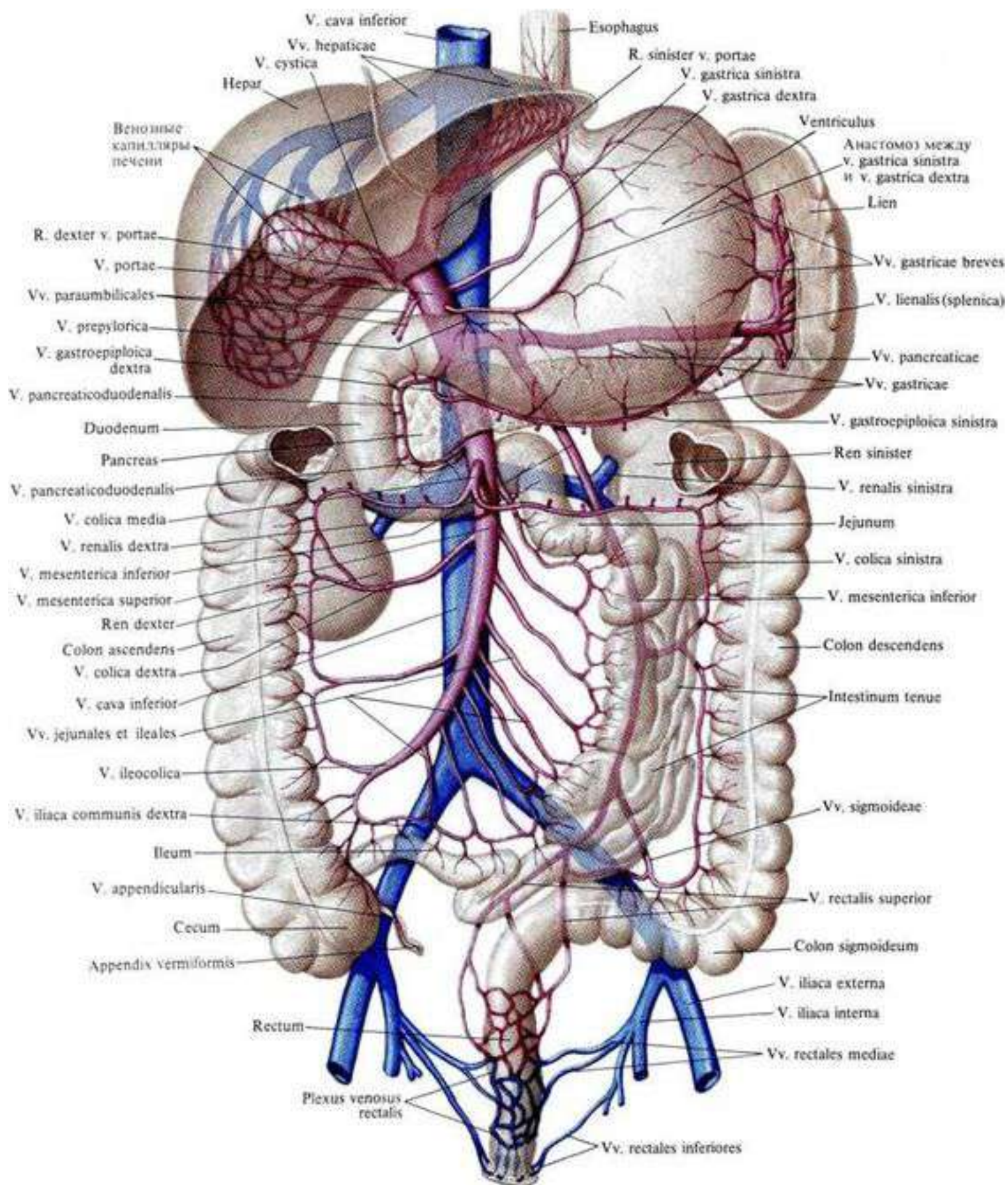
- D 1
- D 2
- D 3
- D 4
- D 5
- D 6
- D 7
- D 8
- D 9
- D 10
- D 11
- D 12

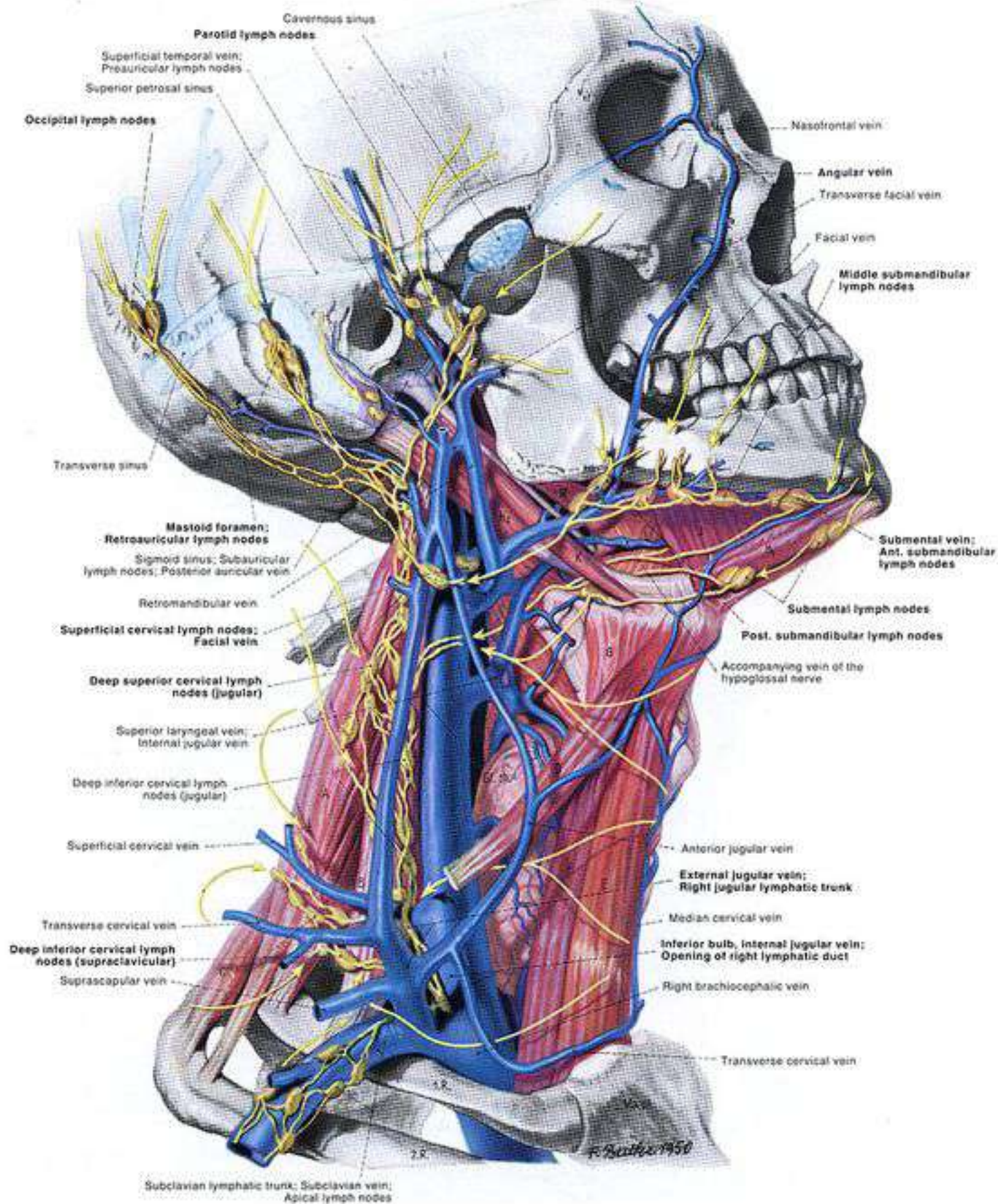
LUMBAR

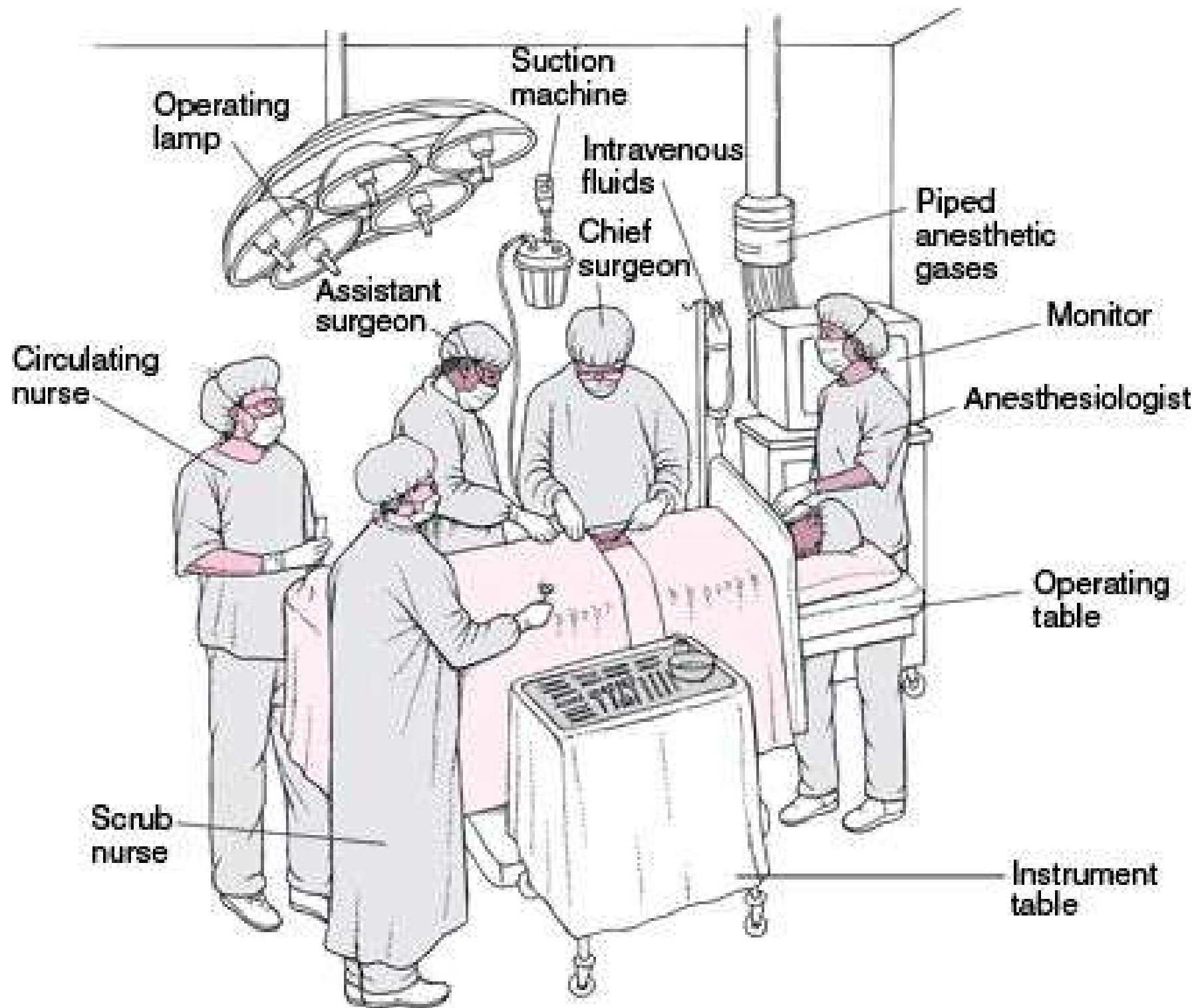
- L 1
- L 2
- L 3
- L 4
- L 5

SACRO

COXIS

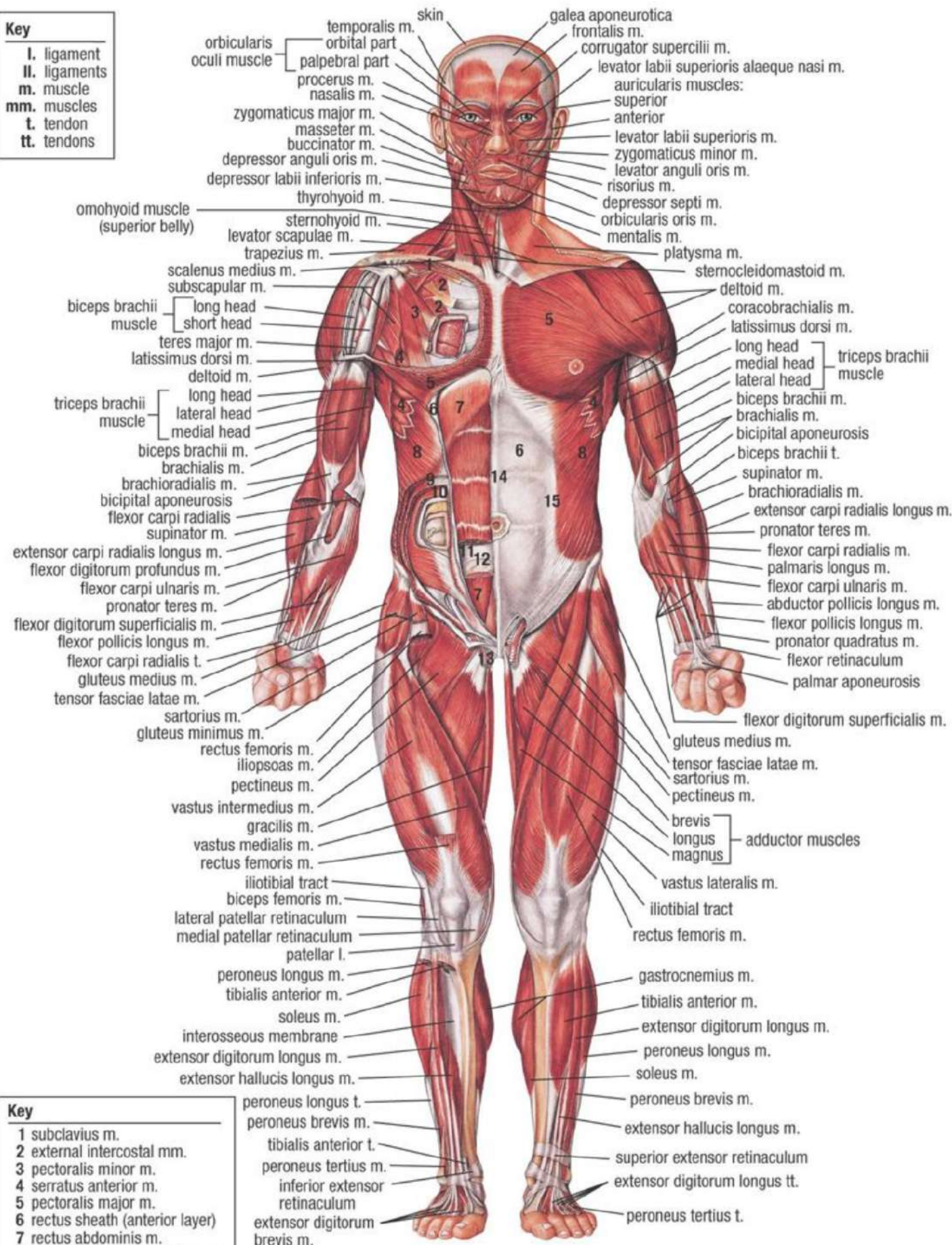






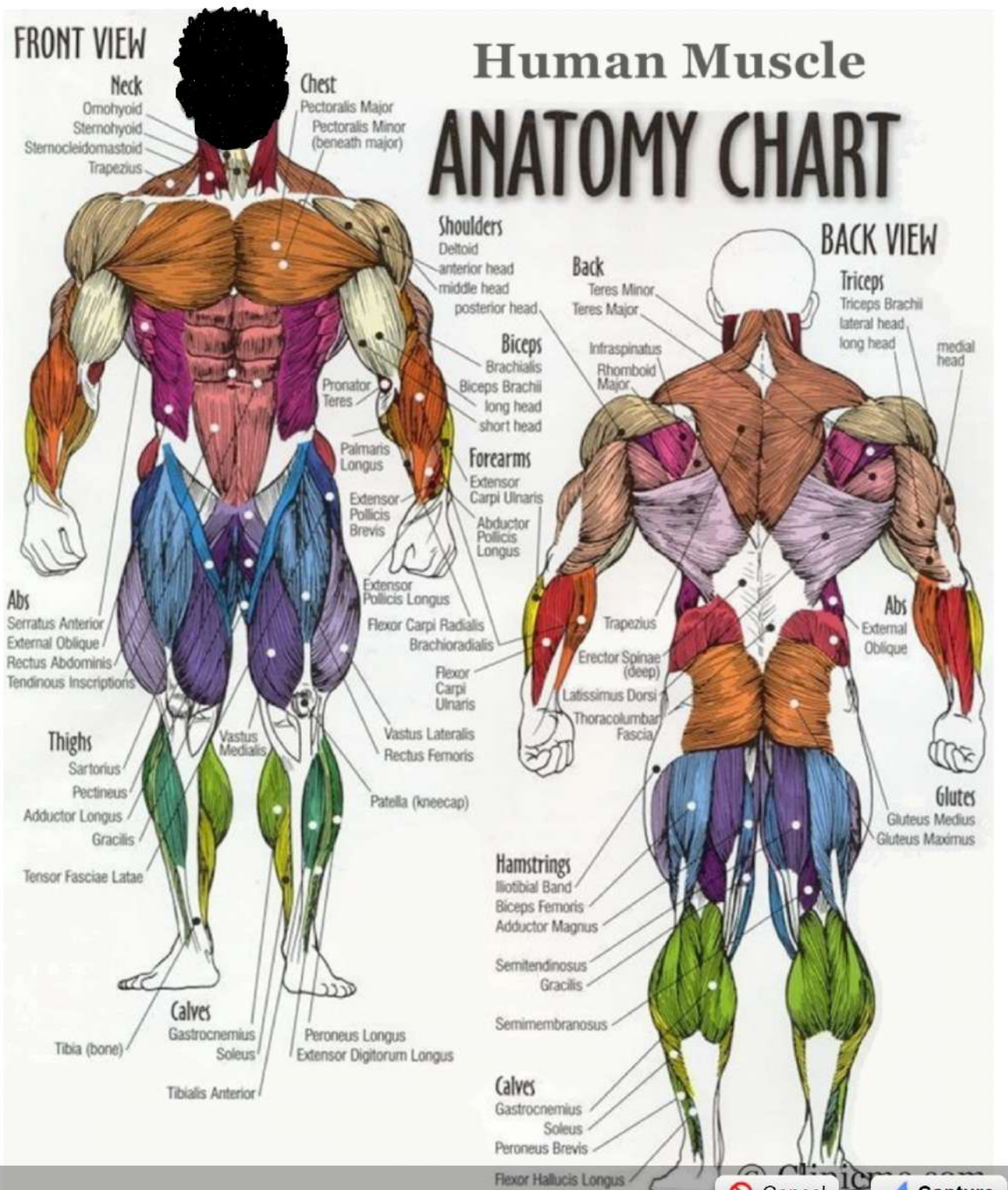
Key

- I. ligament
- II. ligaments
- m. muscle
- mm. muscles
- t. tendon
- tt. tendons



Key

- 1 subclavius m.
- 2 external intercostal mm.
- 3 pectoralis minor m.
- 4 serratus anterior m.
- 5 pectoralis major m.
- 6 rectus sheath (anterior layer)
- 7 rectus abdominis m.
- 8 external abdominal oblique m.
- 9 internal abdominal oblique m.
- 10 transversus abdominis m.
- 11 rectus sheath (posterior layer)
- 12 arcuate line
- 13 cremaster m.
- 14 linea alba
- 15 aponeurosis of external abdominal oblique m.



Cancel

Capture

Tagged: anatomy muscles of the body quiz, muscles diagram of the human body, muscular anatomy

Quick Study®

HEALTH

VITAMINS & MINERALS

NUTRIENTS	TYPE	NATURAL SOURCES	BEST IF TAKEN WITH	DEFICIENCY SYMPTOMS	TOXICITY SYMPTOMS
Dosage					
Calcium	Mineral	Skim milk, nonfat yogurt, kale, cheeses, collard greens, canned salmon & sardines with bones, mustard greens, broccoli, figs, calcium-fortified orange juice, carob, oats, prunes, asparagus, sesame seeds, soybeans, tofu, watercress, whey	Boron, essential fatty acids, lysine, magnesium, manganese, phosphorus, vitamins A, C, D, E, cobalt, folic acid, iron, zinc	Muscle spasms, rickets, osteomalacia, osteoporosis	Generally considered non-toxic. Calcium supplements are not recommended for those individuals with kidney disease or a history of kidney stones.
1,000-1,500 mg					
Chromium	Trace Mineral	Brewer's yeast, broccoli, ham, grape juice, brown rice, cheese, whole grains, dried beans, calves liver, chicken, corn, corn oil, dairy products, eggs, potatoes, mushrooms, wine, beer	None required	Rare: alterations in metabolism of fats, carbohydrates, proteins, amino acids	Generally considered non-toxic. Exposure to industrially inhaled chromium has been linked to lung cancer.
200-600 mcg					
Copper	Trace Mineral	Shellfish, nuts, seeds, cocoa powder, beans, whole grains, mushrooms, calves liver, avocados, barley, beets, broccoli, lentils, oats, oranges, radishes, raisins, salmon, green leafy vegetables	Cobalt, folic acid, iron, zinc	Osteoporosis, inability of body to manufacture collagen, fatigue, baldness, slow growth, slows nervous system development, retardation	Nausea, vomiting, abdominal pain, diarrhea, headaches, metallic taste, hemolytic anemia
0.5-2 mg					
Fluoride	Trace Mineral	Fluoridated water, tea, canned salmon, mackerel, kidney, liver	None required	Dental caries, brittle bones	Mottled teeth, osteomalacia, osteoporosis
1.5-4 mg					
Folic Acid	Water Soluble	Fortified cereals, pinto beans, navy beans, asparagus, spinach, broccoli, okra, brussels sprouts, barley, beef, bran, brown rice, brewer's yeast, cheese, chicken, dates, green leafy vegetables, lamb, legumes, lentils, liver, milk, mushrooms, oranges, split peas, pork, tuna, whole grains	Multivitamin	Anemia, irritability, weakness, sleep disturbances, pallor, sore & reddened tongue	Generally considered non-toxic.
400-1,200 mcg					
Iodine	Mineral	Iodized salt, shellfish, saltwater fish, milk, seaweed	Iron, manganese, phosphorus	Growth and sexual development can be delayed in children; goiter	Generally considered non-toxic, if under 1,000 mcg/day. High doses can cause headaches, metallic taste in mouth and rash. Doses over 20,000 mcg/day have been associated with iodine goiter.
0-150 mcg (Most individuals) 150-300 mcg (For those living in low-iodine areas or for those with low iodine diets.)					
Iron	Mineral	Iron fortified cereals, beef, baked potatoes, clams, pumpkin seeds, soybeans, eggs, fish, liver, green leafy vegetables, whole grains, nuts, avocados, beets, brewer's yeast, dates, peaches, pears, lentils, dried prunes, raisins, sesame seeds	None required	Anemia, dry, coarse hair, dysphagia, dizziness, fatigue, hair loss, cracked lips or tongue, nervousness, slowed mental response, pallor	Generally considered non-toxic, if under 75mg/day. High doses can cause abdominal cramps, vomiting, and diarrhea. Severe overdoses of iron can be considered fatal if medical attention is not sought.
15-25 mg (Men) 18-30 mg (Women)					
Magnesium	Mineral	Brown rice, avocados, spinach, haddock, oatmeal, navy beans, lima beans, broccoli, yogurt, bananas, baked potatoes, apples, apricots, brewer's yeast, tofu, cantaloupes, grapefruit, green, leafy vegetables, lemons, nuts, salmon, sesame seeds, wheat	Calcium, phosphorus, potassium, vitamins B6 (pyridoxine), C, D	Sleep disturbances, irritability, rapid heartbeat, confusion, muscle spasms, GI upset	Rarely toxic. Symptoms may include diarrhea, fatigue, and arrhythmia.
500-750 mg					
Manganese	Trace Mineral	Canned pineapple juice, wheat bran, wheat germ, whole grains seeds, nuts, cocoa, shellfish, tea, dairy products, apples, apricots, avocados, bananas, brewer's yeast, cantaloupe, grapefruit, green, leafy vegetables, peaches, figs, salmon, soybeans, tofu	Calcium, iron, vitamin B complex, vitamin E	Rare: atherosclerosis, confusion, tremors, elevated cholesterol levels, impaired vision & hearing, skin rash, irritability, increased blood pressure, pancreatic damage, sweating, increased heart rate, mental impairment, grinding of teeth	Generally considered non-toxic. Exposure to industrially inhaled manganese has been linked to psychiatric and nervous disorders.
15-30 mg					
Molybdenum	Trace Mineral	Beans, whole grains, cereals, milk, milk products, dark green, leafy vegetables, legumes, peas, meats	None required	Rare: increased heart rate, mouth & gum disorders, impotence in older males, increased respiratory rate, night blindness	Generally considered non-toxic.
75 mcg					
Phosphorus	Mineral	Halibut, non-fat yogurt, salmon, skim milk, chicken breast, extra lean ground beef, oatmeal, lima beans, broccoli, asparagus, corn, dairy products, eggs, dried fruits, highly carbonated beverages, legumes, nuts, sesame, pumpkin, sunflower seeds	Calcium, iron, manganese, sodium, vitamin B6 (pyridoxine)	Fatigue, irritability, decreased appetite, bone pain, weakness, skin sensitivity	Rarely toxic. Symptoms may include brittle bones related to loss of calcium (osteoporosis).
1200 mg					
Potassium	Trace Mineral	Dried apricots, baked potatoes	None required	Dry skin, acne, chills, diarrhea, impaired cognitive function, muscle spasms, arrhythmia, edema, decreased reflex response, thirst, glucose intolerance, growth retardation, insomnia, elevated cholesterol, decreased blood pressure	Rarely toxic. Symptoms may include arrhythmia & heart failure (doses exceeding 18gm/day).
3,500 mg					
Selenium	Mineral	Lobster, brazilian nuts, shellfish, whole grains, organ meats, brown rice, poultry, broccoli, dairy products, onions, salmon, tuna, torula yeast, vegetables, wheat germ, wheat grains	None required	Muscle weakness, linked to cancer & heart disease, fatigue, growth retardation, elevated cholesterol levels, susceptibility to infection, sterility	Rarely toxic. Symptoms may include garlic breath, brittle hair & nails, irritability, liver & kidney impairment, metallic taste in mouth, dermatitis, and jaundice.
100-400 mcg (Those living in low-selenium areas, i.e.: coastal & glaciated regions.) 50-200 mcg (Those living in high-selenium areas.)					
Sodium	Trace Mineral	Cheese, most meats, especially ham & bacon, canned soups, canned vegetables, canned tuna, cereals, bread, cabbage, milk, sardines	Calcium, potassium, vitamin D, sulfur	Nausea, vomiting, fatigue, abdominal cramps, dehydration, confusion, depression, dizziness, palpitations, headaches, impaired taste, low blood pressure, seizures	Edema, elevated blood pressure, potassium deficiency, diseases of the liver & kidneys
2,400 mg					

continued on the next page

KEY: IU - International Unit ad - every day ah - every hour aweek/month - once a week/month bid/tid/qid - two/three/four times daily WF - with food ADOL - as directed on label

continued from the previous page

Quick Study

Vitamin A	Fat Soluble	Carrots-raw & juiced, pumpkins, yams, tuna, cantaloupe, mangos, turnip, beet greens, butternut squash, spinach, fish, eggs	Choline, vitamins C, D, E, essential fatty acids, zinc	Poor night vision, macular degeneration, increased risk of cataracts, dry skin. Hearing, taste, smell, nerve damage	Nausea & vomiting, headaches, insomnia, dry skin, joint pain, constipation
5,000-50,000 IU					
Vitamin B1 <i>Thiamine</i>	Water Soluble	Rice bran, pork, beef, ham, fresh peas, beans, breads, wheat germ, oranges, enriched pastas, cereals	Manganese, vitamin C, E, vitamin B complex	Mild: appetite & weight loss, nausea, vomiting, fatigue, nervous system problems Severe: beri beri, muscle weakness, decreased DTR, edema, enlarged heart	Generally non-toxic.
25-300 mg					
Vitamin B2 <i>Riboflavin</i>	Water Soluble	Poultry, fish, fortified grains & cereals. Broccoli, turnip greens, asparagus, spinach, yogurt, milk, cheese	Vitamin B complex, vitamin C	Mild: cracks & sores to corners of the mouth & tongue, red eyes, skin lesions, dizziness, hair loss, inability to sleep, sensitivity to light, and poor digestion. Severe (rare): anemia, nerve disease	Generally non-toxic.
25-300 mg					
Vitamin B3 <i>Niacin</i>	Water Soluble	Chicken breast, tuna, veal, beef liver, fortified breads & cereals, brewer's yeast, broccoli, carrots, cheese, corn flour, dandelion greens, dates, eggs, fish, milk, peanuts, pork, potatoes, tomatoes	Vitamin B complex, vitamin C	Mild: canker sores, diarrhea, dizziness, fatigue, halitosis, headaches, indigestion, inability to sleep, loss of appetite, dermatitis Severe: pellagra	Nausea, vomiting, abdominal cramps, diarrhea, flushing. Severe: Liver damage, irregular heart rate, rash to large portions of the body, gouty arthritis
25-300 mg					
Vitamin B5 <i>Pantothenic Acid</i>	Water Soluble	Whole grains, mushrooms, salmon, brewer's yeast, fresh vegetables, kidney, legumes, liver, pork, royal jelly, saltwater fish, torula yeast, whole rye & whole wheat flour	Vitamins A, C, E	Rare: Nausea, vomiting, fatigue, headache, tingling in the hands, sleep disturbances, abdominal pains & cramps	Generally considered non-toxic.
25-500 mg					
Vitamin B6 <i>Pyridoxine</i>	Water Soluble	Bananas, avocados, chicken, beef, brewer's yeast, eggs, brown rice, soybeans, whole wheat, peanuts, walnuts, oats, carrots, sunflower seeds	Potassium, vitamin C, vitamin B complex	Anemia, seizures, headaches, nausea, dry & flaky skin, sore tongue, cracks on mouth, vomiting	Generally considered non-toxic. High doses (2000-6000 mg/day) can cause nerve disorders.
1.5-2 mg					
Vitamin B12 <i>Cyanocobalamin</i>	Water Soluble	Clams, ham, cooked oysters, king crab, herring, salmon, tuna, lean beef, liver, blue cheese, camembert & gorgonzola cheese	None required	Unsteady gait, chronic fatigue, constipation, depression, digestive disturbances, dizziness, drowsiness, liver enlargement, hallucinations, headaches, inflammation of the tongue, irritability, mood swings, nerve disorders, palpitations, pernicious anemia, tinnitus, spinal cord degeneration	Generally considered non-toxic.
25-500 mcg					
Vitamin C	Water Soluble	Broccoli, cantaloupe, kiwifruit, oranges, pineapple, peppers, pink grapefruit, strawberries, asparagus, avocados, collards, dandelion greens, kale, lemons, mangos, onions, radishes, watercress	Bioflavonoids, calcium, magnesium	Mild: poor wound healing, bleeding gums, easily bruised, nosebleeds, joint pain, lack of energy, susceptibility to infection. Severe: scurvy	Generally considered non-toxic. High doses (5,000 mg and up/day) can cause abdominal bloating and diarrhea.
60-5,000 mg					
Vitamin D	Fat Soluble	Sun exposure, sardines, salmon, mushrooms, eggs, fortified milk, fortified cereals, herring, liver, tuna, cod liver oil, margarine	Calcium, choline, vitamins A & C, phosphorus, essential fatty acids	In infants, irreversible bone deformities. In children: rickets, delayed tooth development, weak muscles, softened skull In adults: osteomalacia, osteoporosis, hypocalcemia	Nausea & vomiting, headaches, constipation, diarrhea, fatigue, loss of appetite, excessive thirst & urination, protein in urine, liver & kidney damage
400-800 IU					
Vitamin E	Fat Soluble	Vegetable & nut oils, including soybean, corn, safflower, spinach, whole grains, wheat germ, sunflower seeds	Essential fatty acids, vitamins A, B1, C, manganese, selenium	Rare symptoms may include anemia and edema.	Generally non-toxic; but stomach upset, dizziness and diarrhea can occur.
30-1,200 IU					
Vitamin K	Fat Soluble	Green leafy vegetables including spinach, kale, cauliflower, broccoli	None required	Rare, except in newborns, where bleeding tendencies are possible. Elevated levels of vitamin K can interfere with the effects of anti-coagulants.	Generally non-toxic; but a type of jaundice may occur in premature infants.
80 mcg					
Zinc	Mineral	Cooked oysters, beef, lamb, eggs, whole grains, nuts, yogurt, fish, legumes, lima beans, liver, mushrooms, pecans, pumpkin & sunflower seeds, sardines, soybeans, poultry	Calcium, copper, phosphorus, vitamin B6 (pyridoxine)	Change in taste & smell, nails can become thin & peel, acne, delayed sexual maturation, hair loss, elevated cholesterol, impaired night vision, impotence, growth retardation, increased susceptibility to infection	Nausea, vomiting, abdominal pain, impaired coordination, fatigue
22.5-50 mg					

Vitamin and Mineral Supplementation for Cardiovascular Disorders

ARTERIOSCLEROSIS/ATHEROSCLEROSIS

Beta-carotene	15,000 IU qd
Calcium	1,500 mg qh
Magnesium	750 mg qh
Selenium	200 mcg qd
Vitamin A	25,000 IU qd
Vitamin C	100-4,000 mg 5x day
Vitamin D	400 mg qd
Vitamin E	200 IU qd, increase by 200 IU q week, until up to 1,000 IU qd

COMMON HEART DISORDERS

Calcium	1,500-2,000 mg qd, in divided dosages, after meals and qhs
Magnesium	750-1,000 mg qd, in divided dosages, after meals and qh
Potassium	2,000 mg qd
Selenium	200 mcg qd
Vitamin E	100-200 IU qd and increase by 100-200 IU qweek, until 800-1,000 IU are being taken qd. (Do not exceed 400 IU, if on anticoagulant therapy.)

INCLUDES: Aneurysm, Angina pectoris, Arrhythmia, Cardiac arrest, Cardiomegaly, Cardiomyopathy, Carditis, Congestive heart failure, Endocarditis, Ischemic heart disease

HEART ATTACK (MI)

Calcium	1,500 mg qd
Chromium	100 mcg qd
Copper	3 mg qd
Folic Acid	400 mcg qd
Magnesium	1,000 mg qd, in divided dosages, after meals and qh.
Selenium	300 mcg qd
Vitamin A	ADOL
Vitamin B complex	50 mg tid
Vitamin B1	500 mg tid WF
Vitamin B12	2,000 mcg qd
Vitamin C	3,000-6,000 mg qd
Vitamin E	100-200 IU qd and increase by 100-200 IU qweek, until 800-1000 IU are being taken qd. (Do not exceed 400 IU, if on anticoagulant therapy.)

HIGH BLOOD PRESSURE / HYPERTENSION

Calcium	1,500-3,000 mg qd
Magnesium	750-1,000 mg qd
Selenium	200 mcg qd
Vitamin C	1,000-2,000 mg qd
Vitamin E	100 IU qd, and add 100 IU qmonth, until you reach 400 IU qd

HIGH CHOLESTEROL/HYPERLIPIDEMIA

Calcium	ADOL
Vitamin B complex	ADOL
Vitamin B1	ADOL
Vitamin B3	300 mg qd
Vitamin C	1,500-4,000 mg bid

Vitamin and Mineral Supplementation for Gastrointestinal Disorders

APPETITE-POOR

Calcium	1,500 mg qd
Copper	3 mg qd
Magnesium	750 mg qd
Vitamin A	25,000 IU qd
Vitamin B complex	100 mg qd before meals
Zinc	80 mg qd

CELIAC DISEASE

Beta Carotene	10,000 IU qd
Copper	3 mg qd
Folic Acid	ADOL
Vitamin A	15,000 IU qd
Vitamin B complex	100 mg tid
Vitamin B12	ADOL
Vitamin E	400 IU qd
Vitamin K	ADOL
Zinc lozenges	1-15 mg 5 x day

CONSTIPATION

Vitamin C	1,000-4,000 mg 5 x day
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CROHN'S DISEASE

Folic Acid	200 mcg qd
Vitamin B complex	100 mg tid
Vitamin B12	200 mcg qd
Vitamin C	1,000 mg tid
Vitamin K	ADOL
Zinc	50 mg qd

DIARRHEA

Potassium	3,000 mg qd
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KEY: IU - International Unit qd - every day qh - every hour qweek/month - once a week/month bid/tid/qid - two/three/four times daily WF - with food ADOL - as directed on label

Symbol	Class Description	Symbol means that the material:
	Compressed Gas (Class A)	<ul style="list-style-type: none"> ▪ <u>poses</u> an explosion danger because the gas is being held in a cylinder under pressure ▪ <u>may</u> cause its container to explode if heated ▪ <u>may</u> cause its container to explode if dropped
	Combustible and Flammable Material (Class B)	<ul style="list-style-type: none"> ▪ <u>is</u> one that will burn and is consequently a fire hazard (<i>i.e.</i>, is combustible) ▪ <u>may</u> catch fire at relatively low temperatures (<i>i.e.</i>, is flammable) ▪ <u>may</u> ignite spontaneously in air or release a flammable gas on contact with water
	Oxidizing Material (Class C)	<ul style="list-style-type: none"> ▪ <u>may</u> react violently or cause an explosion when it comes into contact with combustible materials ▪ <u>may</u> burn skin and eyes upon contact
	Poisonous Material: Immediate Toxic Effects (Class D1)	<ul style="list-style-type: none"> ▪ <u>is</u> a potentially fatal poisoning substance ▪ <u>may</u> be immediately fatal or cause permanent damage if it is inhaled or swallowed or enters the body through skin contact
	Poisonous Material: Other Toxic Effects (Class D2)	<ul style="list-style-type: none"> ▪ <u>is</u> a poisonous substance that is not immediately hazardous to health ▪ <u>may</u> cause death or permanent damage as a result of repeated exposure over time (<i>e.g.</i>, cancer, birth defects or sterility) ▪ <u>may</u> be an irritant
	Biohazardous Infectious Material (Class D3)	<ul style="list-style-type: none"> ▪ <u>may</u> cause a serious disease resulting in illness or death ▪ <u>may</u> produce a toxin that is harmful to humans
	Corrosive Material (Class E)	<ul style="list-style-type: none"> ▪ <u>causes</u> severe eye and skin irritation upon contact ▪ <u>causes</u> severe tissue damage with prolonged contact ▪ <u>may</u> be harmful if inhaled
	Dangerously Reactive Material (Class F)	<ul style="list-style-type: none"> ▪ <u>is</u> very unstable ▪ <u>may</u> react with water to release a toxic or flammable gas ▪ <u>may</u> explode as a result of shock, friction, or increase in temperature ▪ <u>may</u> explode if heated in a closed container

Workplace Hazardous Materials Information System (WHMIS)

HAZARD SYMBOLS



Compressed Gas

Explosion Danger - Gas under pressure.
May explode if heated, punctured or dropped.



Health Hazard

May cause allergic reaction, cancer, birth defects, damage organs or harm fertility or unborn children.



Flammable Material

Potential Fire Hazard.
Catches fire spontaneously if exposed to air or water or when exposed to heat sparks or flames or as a result of friction.



Harmful or Fatal

Acute Toxicity.
Potentially fatal poisonous substance if inhaled, swallowed, or through skin contact, even in small amounts.



Oxidizing

Fire and/or Explosion Risk in the presence of flammable or combustible material.
May cause fire or enhance the combustion of other materials



Harmful

to skin, eyes or respiratory system. Fatal in large quantities. Hazardous to the Ozone Layer.



Explosion Hazard

Risk of explosion due to fire, shock, friction, heat or puncture



Harmful to the Environment

and/or aquatic life with long-lasting effects.



Corrosive

Causes severe Skin Burns & Eye Damage.
Is corrosive to metal.



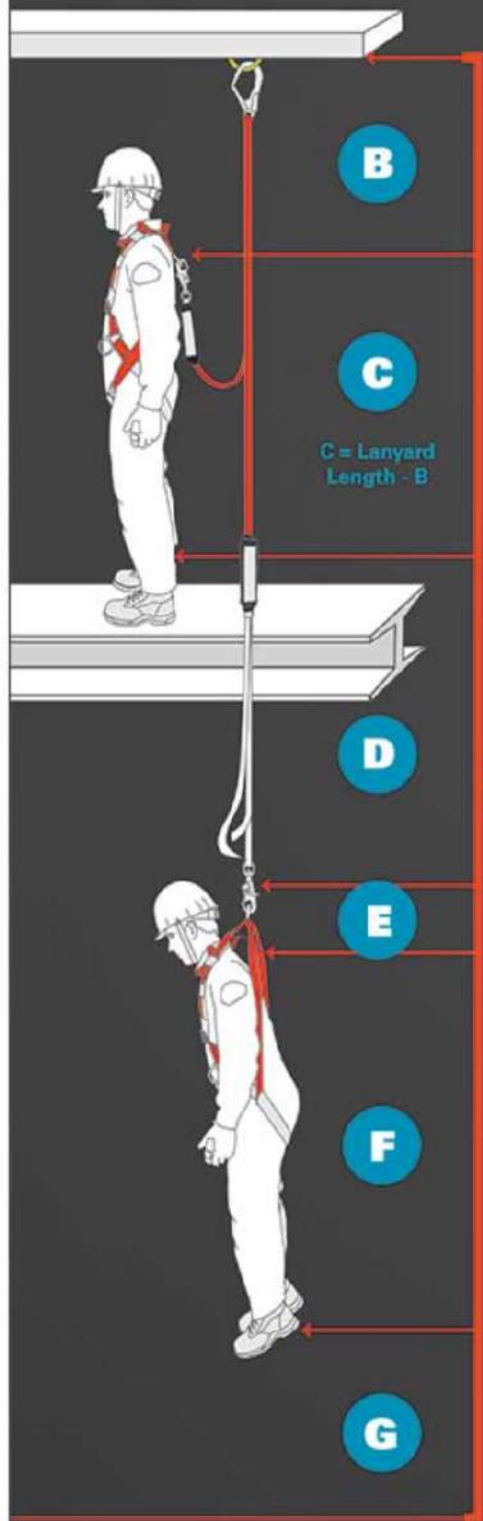
Biohazardous Infectious Materials

For organisms or toxins that can cause serious disease in people or animals resulting in illness or death.

ESTIMATING CLEARANCES

ENERGY ABSORBING LANYARDS

This poster illustrates two common, but different, methods used to estimate clearance. Method 1 uses the anchor location as the calculation starting point. Method 2 uses the platform as the calculation starting point. Use the method where the starting point (anchor or platform) is a known measurement, but either method is acceptable.



A HEIGHT TO ANCHOR OR PLATFORM

AVAILABLE CLEARANCE. This measurement is a known measurement, usually from the anchorage (Method 1) or the walking surface (Method 2).

B ANCHOR LOCATION

LOCATION OF ANCHOR ABOVE D-RING ONLY. By evaluating how the lanyard is attached (above or below the workers D-ring), the free fall distance can be estimated. The lanyard anchored above the D-ring reduces the free fall distance and lanyards anchored below the D-ring increase the free fall distance. The slack in the lanyard is equal to the free fall distance (C).

C FREE FALL DISTANCE

ANCHOR LOCATION & LANYARD LENGTH. The free fall distance is the vertical distance the worker travels before the system begins to engage. In these examples, the worker will fall the length of the lanyard minus B.

D ENERGY ABSORBER DEPLOYMENT

ANSI Z359.13. Gravitec recommends using ANSI Z359.13 compliant energy absorbers that have a predictable deployment distance (6 ft FF = 48") (12 ft FF = 60") and a capacity of 130-310 lbs worker. For these estimates, it is recommended to use the full deployment distance of the energy absorber.

E HARNESS STRETCH

TYPICALLY 1-2.5 FEET. Even the best-fit harness will add length to the fall distance. Most recommend adding a foot to the calculation, but ill-fitted or stretch-type harnesses can add more.

F WORKER HEIGHT

USED IN METHOD 1 ONLY. Approximately a foot less than the worker's height as this is where they are connected. The worker height is added using method 1, since the worker is hanging below the anchor. Using Method 2, the worker's height is not added into the equation since we are following their feet through the fall.

G SAFETY MARGIN

2 FT RECOMMENDED. These numbers are estimates, which means it is a good idea to add two or three extra feet as a margin of safety.

METHOD 1

(A) must be = or greater than (B+C+D+E+F+G)

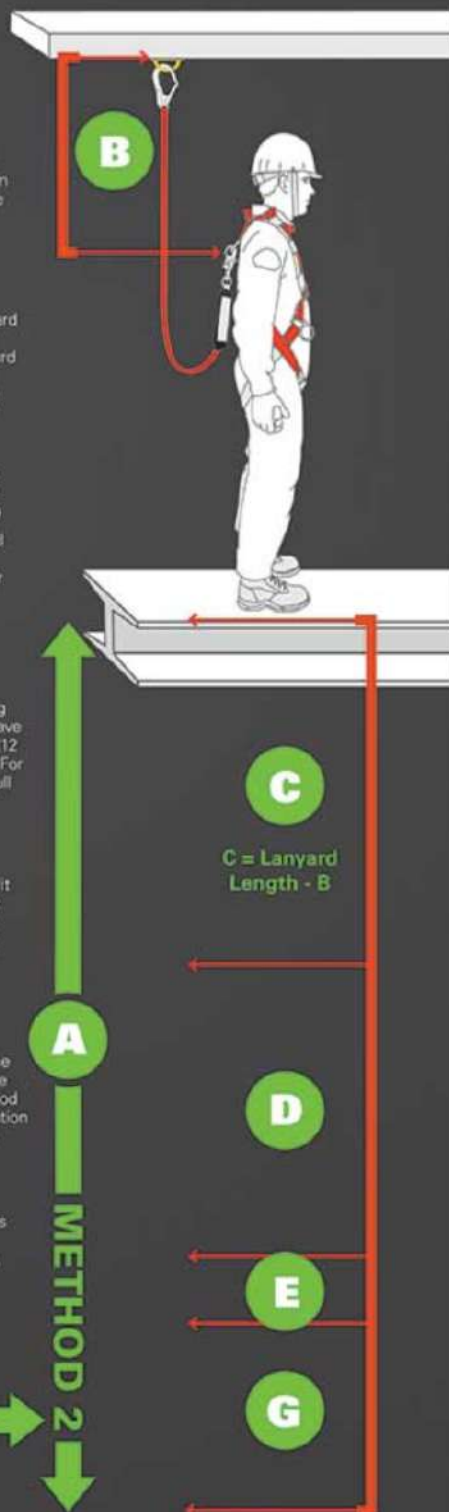
METHOD 2

(A) must be = or greater than (C+D+E+G)

REGULATIONS

OSHA 1910.140
140.32(a) Personal fall arrest systems are rigged to catch a worker that the employee cannot free fall more than 6 feet (1.8 m) or contact a lower level.

OSHA 1926.502
502.14(b)(8) Personal fall arrest systems, when stopping a fall, shall be rigged such that an employee can neither free fall more than 6 feet (1.8 m) nor contact any lower level.



STANDARDS

ANSI Z359.13 - 2013
Personal Energy Absorbers and Energy Absorbing Lanyards

32.4.1.8 1 FF energy absorbing lanyards shall have an average arrest force no greater than 900 pounds (4.0 kN) and a maximum deployment distance of 60 inches (1.5 m) without exceeding 1,800 pounds (8.1 kN) maximum arrest force.

32.4.2.3 8 1 FF energy absorbing lanyards shall have an average arrest force no greater than 1,300 pounds (5.8 kN) and a maximum deployment distance of 60 inches (1.5 m) without exceeding 1,800 pounds (8.1 kN) maximum arrest force.

GRAVITEC
SYSTEMS, INC.

PROTECTING WORKERS AT HEIGHT

DONNING, ADJUSTING & INSPECTING A

FULL BODY HARNESS

A Full Body Harnesses (FBH) is an integral part of a fall arrest system. Worn and used properly, a FBH keeps the worker in an upright position, distributes forces to the pelvic area and provides a window of time for rescue.

DONNING A FULL BODY HARNESS STEP BY STEP

DORSAL D-RING

The dorsal D-ring should be located between the shoulder blades, but not too high to be uncomfortable.

CHEST STRAP

The chest strap should be located on the upper chest and tight enough to prevent the shoulder straps from sliding off the shoulders.

WEBBING ENDS

Ends of webbing should be of equal length and held in place by keepers - **DO NOT CUT**

SUB-PELVIC

The sub-pelvic strap should be located just below the buttocks

LEG LOOPS

Leg loops should be snug, but not uncomfortable.

1 UNTANGLE & INSPECT THE HARNESS:

Locate the dorsal D-ring and shake the harness out. Lay the harness flat on a clean area of the floor or hang it from a hook. Untangle any twists and knots by running your hands down the webbing. Disconnect any connecting buckles. Inspect the harness for cuts, tears, chemical damage, or excessive abrasion. Look for any impact indicators on the dorsal D-ring plate or leg loop grommets. Inspect the hardware, D-rings, and buckles for corrosion, cracks, or deformities. Never use a harness that does not pass inspection.

2 DON THE HARNESS:

Put the harness on. Most "vest style" harnesses go on like a jacket with arms going between the shoulder straps and the back straps.

3 ADJUST THE SUB-PELVIC STRAP:

Using the adjustment buckles located on the front vertical straps, raise or lower the sub-pelvic strap so it is located just below the buttocks by moving webbing through the adjustment buckle. The ends of the adjustment straps should be of equal length after the sub-pelvic strap has been adjusted.

4 CONNECT & ADJUST THE LEG LOOPS:

Reach between the legs and grab the respective leg loop and check that there are no twists. Connect the leg loop and adjust it to fit. The leg loop should be snug but not uncomfortable. Connect and adjust the opposite leg loop in the same manner. Both leg loops should be the same length after adjustment.

5 CONNECT & ADJUST THE CHEST STRAP:

Connect the chest strap and adjust its length and height so it prevents the shoulder straps from coming off the shoulders. The chest strap should be perpendicular to the shoulder straps and located on the upper chest area.

ADJUST THE DORSAL D-RING:

The dorsal D-ring should be located between the shoulder blades. Raise or lower the dorsal D-ring accordingly.

CHECK OVERALL FIT & BUDDY CHECK:

Secure loose ends of webbing with keepers. Check for twists, misaligned webbing, or disconnected buckles. It is good practice to have a co-worker perform a buddy check. Checking the location of the sub-pelvic strap and dorsal d-ring, the tension on the leg loops and shoulder straps, loose webbing ends and the overall fit of the harness.

INSPECT THE FULL BODY HARNESS

Webbing: cuts, tears, holes, welding slag, chemical damage, soiling, overspray, UV damage, abrasion.

Stitch Patterns: damaged patterns, broken, pulled or loose stitches, abrasion.

D-Rings & Buckles: deformity, corrosion, nicks, smooth operation, springs intact.

Impact Indicators: designed indicators deployed, broken D-ring plate, heat signatures, oblong grommets.

Label: manufacturer, date of manufacture, model, serial, warnings.

REGULATIONS

OSHA - Full Body Harnesses

1910.66 App. C (101)(1) & 1910.66 App. C (101)(2) - Full body harness must meet minimum strength requirements for an employee in 1,000 pounds (450 kg) when used with a body harness.

1910.66 App. C (101)(1) & 1910.66 App. C (101)(2) - The attachment point of the body harness shall be located in the center of the worker's back near shoulder level, or above the worker's head.

1910.66 App. C (101)(1) - Body belts, harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

STANDARDS

ANSI Z359.1 - 2007 - Full Body Harnesses

Straps shall synthetic material, be a minimum width of 1 1/4 inches and have an MBS of 5,000 pounds.

The harness shall support the body across the lower chest, over the shoulders, and around the thighs. The harness shall prevent fallout. The full arrest attachment shall be located at the dorsal position.

Force mounted attachment elements shall be used with a maximum fall distance to two feet and a maximum arrest force to 200 pounds.

Static Strength Testing: A load of 5,000 pounds shall be applied to the harness dorsal D-ring in a direction simulating a fall first fall for a period of one minute.

Dynamic Performance Testing: Drop the test torso and harness 5.3 feet into the static test lanyard. The torso is to remain suspended for five minutes. The dynamic test is to be done twice, once feet first and once head first.



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THE **A B C D** OF FALL PROTECTION

The **A, B, C, D of Fall Protection** covers the fundamental requirements of every personal fall protection system. Use it as a guide when evaluating your fall protection requirements, however, always consult a fall protection specialist if you're unsure of any aspect of fall protection or fall protection equipment.

A

ANCHORAGE

Anchorage devices provide a secure point of attachment (to an existing structure) for the fall arrest system. Anchorage devices can be permanent or temporary and vary to suit the type of structure available.



B

BODY SUPPORT

Full body harnesses connect the worker to the fall arrest system. They are specially designed to protect the worker against serious injury in the event of a fall whilst also remaining comfortable to wear.



C

CONNECTOR

Connectors are devices that connect the full body harness to the anchorage system. They can be single products or multiple devices working together.



D

DESCENT/ RESCUE

Descent & Rescue systems enable the retrieval of an injured or incapacitated worker. In the event of a rescue, this equipment facilitates rapid recovery of the worker without endangering other workers in the process.



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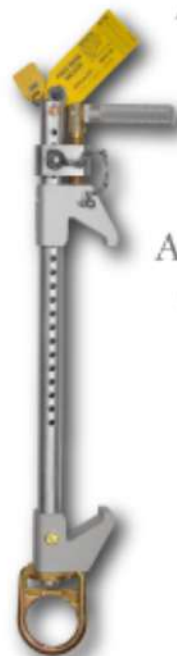
©2013 Capital Safety

THE ABC'S OF PERSONAL FALL PROTECTION

IOWA STATE UNIVERSITY
Environmental Health and Safety

When working at heights, it can be challenging to remember the basics of personal fall protection systems. The ABC's of fall protection is an easy way to remember the basics of personal fall protection systems. The ABC's include the three components most often used together when utilizing a personal fall protection system.

A Anchor Point



An **anchor point** is a secure point of attachment to a structure.

Anchoring devices come in a variety of forms and can be temporary or permanent.

B Body Harness



A full **body harness** allows for maximum range of motion while still providing body support in the event of a fall.

They're designed to distribute the force of a fall through-out the trunk of the body.

C Connector



The **connector** attaches the body harness to the anchor point.

They come in many forms, the most common being a fixed-length shock absorbing lanyard or a self-retracting lifeline.

STEP 1



STEP 2



STEP 3

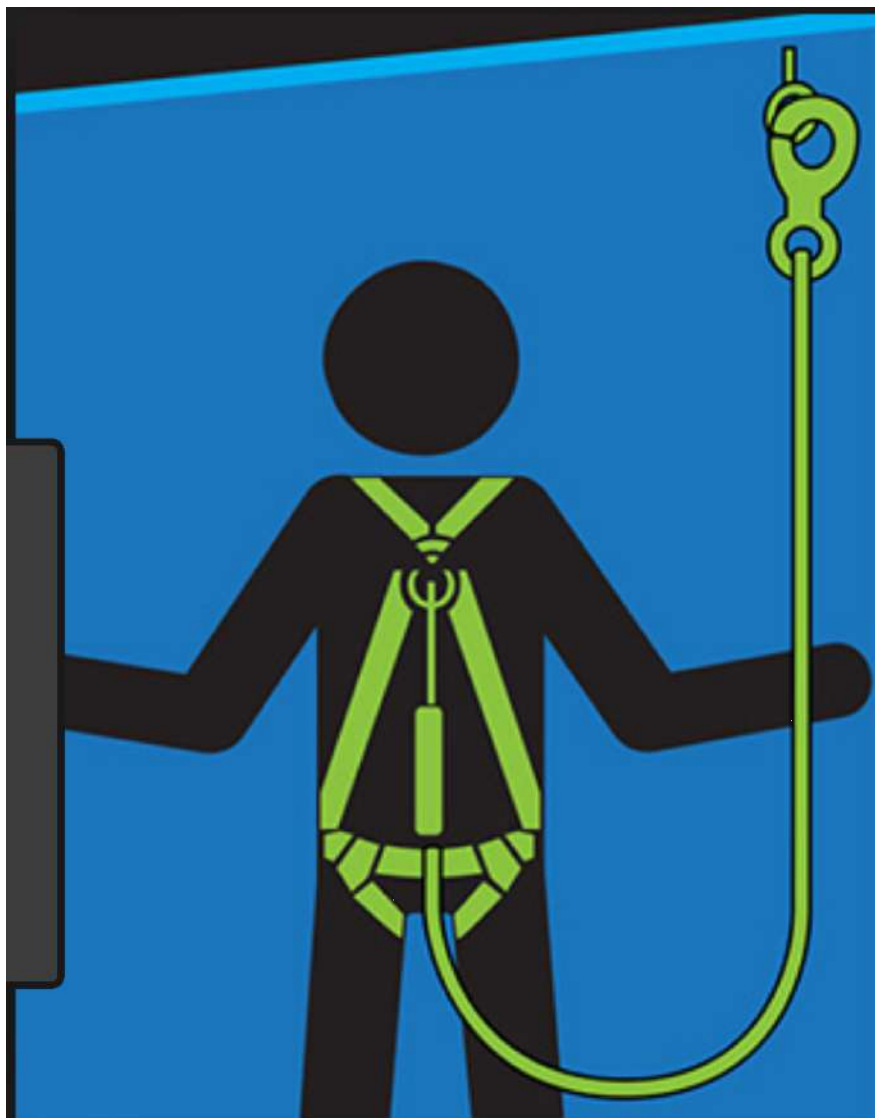


STEP 4



STEP 5





The key components of every **PERSONAL FALL ARREST SYSTEM**

A.

ANCHORAGE

A secure point of attachment (structure) for the fall arrest system. Commonly referred to as a tie-off point (ex. I-beam).



B.

BODY SUPPORT

Full body harnesses provide a connection point on the worker for the personal fall arrest system.

C.

CONNECTORS

Devices used to connect the worker's full body harness to the anchorage system (eg. shock absorbing lanyard, self retracting lifeline, etc.).



TYPES OF HARNESES

DBI-SALA™ harnesses are available in different types, with various features, depending on their intended use.



MULTI-PURPOSE HARNESS

This type typically includes extra attachment points which allow work in a variety of situations. The belt and pad provide additional back lumbar support, positioning rings and tool carrying options.



WORK POSITIONING HARNESS

These harnesses have positioning D-rings located on the hips for use with pole straps or work positioning lanyards, which allow hands-free operation. Harnesses of this kind may include integral waist belts.



LADDER CLIMBING HARNESS

Harnesses with a frontal attachment point, for connection to permanent ladder safety systems.



DESCENT CONTROL HARNESS

These harnesses typically have frontal attachment points for use with descent control devices.



CONFINED ENTRY/RETRIEVAL HARNESS

One attachment point located on each shoulder strap facilitates upright retrieval from confined spaces.

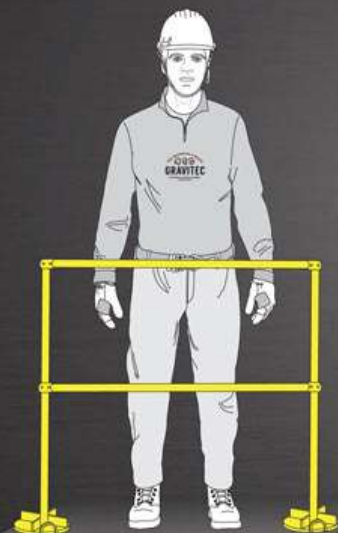
HIERARCHY OF FALL PROTECTION

The Hierarchy of Fall Protection is the preferred order of control for fall hazards. As the Hierarchy progresses, so does the risk.



1 HAZARD ELIMINATION

Preferred solution is to eliminate exposure to the fall hazard.



2 PASSIVE FALL PROTECTION

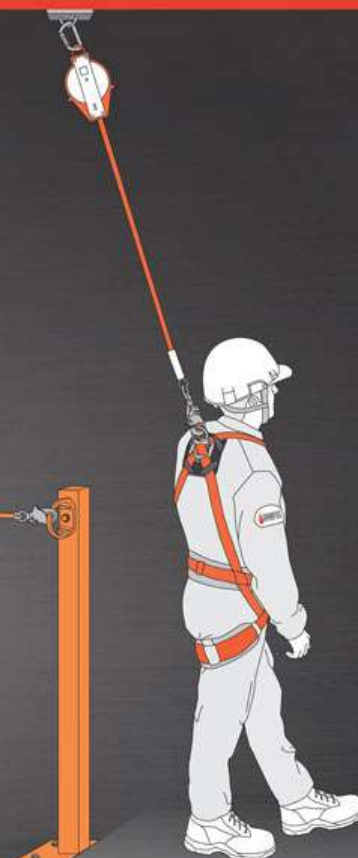
Physical barriers, like guardrails around unprotected edges and covers over holes.



3 FALL RESTRAINT SYSTEMS

Use personal protective equipment to restrict the worker's range of movement so they cannot fall.

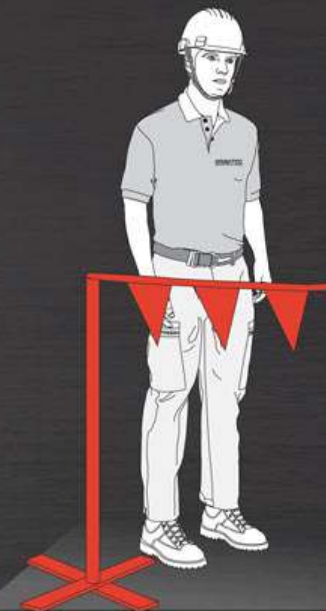
* Training required



4 FALL ARREST SYSTEMS

Use personal protective equipment to arrest a fall within acceptable force and clearance margins.

* Training and rescue planning required



5 ADMINISTRATIVE CONTROLS

Least preferred solution is work practices or procedures that increase a worker's awareness of a fall hazard.

* Not recommended

Structure
void setup() void loop()

Control Structures

```
if (x<5){ } else { }
switch (myvar) {
  case 1:
    break;
  case 2:
    break;
  default:
}
for (int i=0; i <= 255; i++){ }
while (x<5){ }
do { } while (x<5);
continue; //Go to next in do/for/while loop
return x; // Or 'return;' for voids.
goto // considered harmful :-)
```

Further Syntax

```
// (single line comment)
/* (multi-line comment) */
#define DOZEN 12 //Not baker's!
#include <avr/pgmspace.h>
```

General Operators

```
= (assignment operator)
+ (addition) - (subtraction)
* (multiplication) / (division)
% (modulo)
== (equal to) != (not equal to)
< (less than) > (greater than)
<= (less than or equal to)
>= (greater than or equal to)
&& (and) || (or) ! (not)
```

Pointer Access

```
& reference operator
* dereference operator
```

Bitwise Operators

```
& (bitwise and) | (bitwise or)
^ (bitwise xor) ~ (bitwise not)
<< (bitshift left) >> (bitshift right)
```

Compound Operators

```
++ (increment) -- (decrement)
+= (compound addition)
-= (compound subtraction)
*= (compound multiplication)
/= (compound division)
&= (compound bitwise and)
|= (compound bitwise or)
```

ARDUINO CHEAT SHEET V.02B

Mostly taken from the extended reference:
<http://arduino.cc/en/Reference/Extended>

Gavin Smith – Robots and Dinosaurs, The Sydney Hackspace



Constants

```
HIGH | LOW
INPUT | OUTPUT
true | false
143 // Decimal number
0173 // Octal number
B11011111 // Binary (8-bits only)
0x7B // Hex number
7U // Force unsigned
10L // Force long
15UL // Force long unsigned
10.0 // Forces floating point
2.4e5 // 245,000
```

Data Types

```
void
boolean (0, 1, false, true)
char (e.g. 'a' -128 to 127)
unsigned char (0 to 255)
byte (0 to 255)
int (-32,768 to 32,767)
unsigned int (0 to 65535)
word (0 to 65535)
long (-2,147,483,648 to 2,147,483,647)
unsigned long (0 to 4,294,967,295)
float (-3.4028235E+38 to 3.4028235E+38)
double (currently same as float)
sizeof(myint) // returns 2 bytes
```

Strings

```
char S1[15];
char S2[8]={'a','r','d','u','i','n','o','\0'};
char S3[8]={'a','r','d','u','i','n','o','\0'};
//Included \0 null termination
char S4[] = "arduino";
char S5[8] = "arduino";
char S6[15] = "arduino";
```

Arrays

```
int myInts[6];
int myPins[] = {2, 4, 8, 3, 6};
int mySensVals[6] = {2, 4, -8, 3, 2};
```

Conversion

```
char() byte()
int() word()
long() float()
```

Qualifiers

```
static // persists between calls
volatile // use RAM (nice for ISR)
const // make read-only
PROGMEM // use flash
```

Digital I/O

```
pinMode(pin, [INPUT,OUTPUT])
digitalWrite(pin, value)
int digitalRead(pin)
//Write High to inputs to use pull-up res
```

Analog I/O

```
analogReference([DEFAULT,INTERNAL,EXTERNAL])
int analogRead(pin) //Call twice if switching pins from high Z source.
analogWrite(pin, value) // PWM
```

Advanced I/O

```
tone(pin, freqhz)
tone(pin, freqhz, duration_ms)
noTone(pin)
shiftOut(dataPin, clockPin, [MSBFIRST,LSBFIRST], value)
unsigned long pulseIn(pin, [HIGH,LOW])
```

Time

```
unsigned long millis() // 50 days overflow.
unsigned long micros() // 70 min overflow
delay(ms)
delayMicroseconds(us)
```

Math

```
min(x, y) max(x, y) abs(x)
constrain(x, minval, maxval)
map(val, fromL, fromH, toL, toH)
pow(base, exponent) sqrt(x)
sin(rad) cos(rad) tan(rad)
```

Random Numbers

```
randomSeed(seed) // Long or int
long random(max)
long random(min, max)
```

Bits and Bytes

```
lowByte() highByte()
bitRead(x,bitn) bitWrite(x,bitn,bit)
bitSet(x,bitn) bitClear(x,bitn)
bit(bitn) //bitn: 0-LSB 7-MSB
```

External Interrupts

```
attachInterrupt(interrupt, function, [LOW,CHANGE,ISING,FALLING])
detachInterrupt(interrupt)
interrupts()
noInterrupts()
```

Libraries:

Serial.
begin([300, 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200])
end()
int available()
int read()
flush()
print()
println()
write()

EEPROM (#include <EEPROM.h>)
byte read(intAddr)
write(intAddr, myByte)

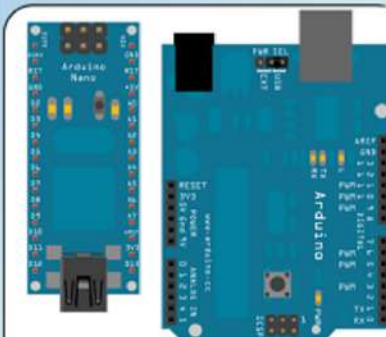
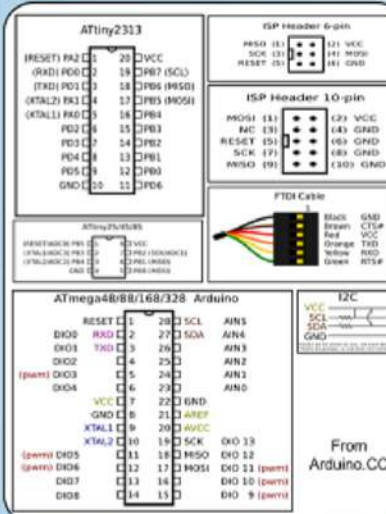
Servo (#include <Servo.h>)
attach(pin, [min_uS, max_uS])
write(angle) // 0-180
writeMicroseconds(uS) //1000-2000, 1500 is midpoint
read() // 0-180
attached() //Returns boolean
detach()

SoftwareSerial(RxPin,TxPin)
// #include<SoftwareSerial.h>
begin(longSpeed) // up to 9600
char read() // blocks till data
print(myData) or println(myData)

Wire (#include <Wire.h>) // For I2C
begin() // Join as master
begin(addr) // Join as slave @ addr
requestFrom(addr, count)
beginTransmission(addr) // Step 1
send(mybyte) // Step 2
send(char * mystring)
send(byte * data, size)
endTransmission() // Step 3
byte available() // Num of bytes
byte receive() //Return next byte
onReceive(handler)
onRequest(handler)

	ATmega168	ATmega328	ATmega1280
Flash (2k for bootloader)	16kB	32kB	128kB
SRAM	1kB	2kB	8kB
EEPROM	512B	1kB	4kB

	Due/Nano v1/Pro Mini	Mega
# of IO	14 + 6 analog (Nano has 14+8)	54 + 16 analog
Serial Pins	0 - RX 1 - TX	0 - RX1 1 - TX1 19 - RX2 18 - TX2 17 - RX3 16 - TX3 15 - RX4 14 - TX4
Ext Interrupts	2 - (Int 0) 3 - (Int 1)	2,3,21,20,19,18 (IRQ0 - IRQ5)
PWM pins	5,6 - Timer 0 9,10 - Timer 1 3,11 - Timer 2	0-13
SPi	10 - SS 11 - MOSI 12 - MISO 13 - SCK	53 - SS 51 - MOSI 50 - MISO 52 - SCK
I2C	Analog4 - SDA Analog5 - SCL	20 - SDA 21 - SCL



Pics from Fritzing.Org under C.C. license

Arduino Programming Cheat Sheet

Primary source: Arduino Language Reference
<http://arduino.cc/en/Reference/>

Structure & Flow

Basic Program Structure

```
void setup() {  
  // Runs once when sketch starts  
}  
void loop() {  
  // Runs repeatedly  
}
```

Control Structures

```
if (x < 5) { ... } else { ... }  
while (x < 5) { ... }  
for (int i = 0; i < 10; i++) { ... }  
break; // Exit a loop immediately  
continue; // Go to next iteration  
switch (var) {  
  case 1:  
    ...  
    break;  
  case 2:  
    ...  
    break;  
  default:  
    ...  
}
```

```
return x; // x must match return type  
return; // For void return type
```

Function Definitions

```
ret. type> <name>(<params>) { ... }  
e.g. int double(int x) {return x*2;}
```

Operators

General Operators

= assignment
+ add - subtract
* multiply / divide
% modulo
== equal to != not equal to
< less than > greater than
<= less than or equal to
>= greater than or equal to
&& and || or
! not

Compound Operators

++ increment
-- decrement
+= compound addition
-= compound subtraction
*= compound multiplication
/= compound division
&= compound bitwise and
|= compound bitwise or

Bitwise Operators

& bitwise and | bitwise or
^ bitwise xor ~ bitwise not
<< shift left >> shift right

Pointer Access

& reference: get a pointer
* dereference: follow a pointer

Built-in Functions

Pin Input/Output

Digital I/O - pins 0-13 A0-A5
pinMode(pin,
[INPUT, OUTPUT, INPUT_PULLUP])
int digitalRead(pin)
digitalWrite(pin, [HIGH, LOW])

Analog In - pins A0-A5

int analogRead(pin)
analogReference(
[DEFAULT, INTERNAL, EXTERNAL])

PWM Out - pins 3 5 6 9 10 11

analogWrite(pin, value)

Advanced I/O

tone(pin, freq_Hz)
tone(pin, freq_Hz, duration_ms)
noTone(pin)
shiftOut(dataPin, clockPin,
[MSBFIRST, LSBFIRST], value)
unsigned long pulseIn(pin,
[HIGH, LOW])

Time

unsigned long millis()
// Overflows at 50 days
unsigned long micros()
// Overflows at 70 minutes
delay(msec)
delayMicroseconds(usec)

Math

min(x, y) max(x, y) abs(x)
sin(rad) cos(rad) tan(rad)
sqrt(x) pow(base, exponent)
constrain(x, minval, maxval)
map(val, fromL, fromH, toL, toH)

Random Numbers

randomSeed(seed) // long or int
long random(max) // 0 to max-1
long random(min, max)

Bits and Bytes

lowByte(x) highByte(x)
bitRead(x, bitn)
bitWrite(x, bitn, bit)
bitSet(x, bitn)
bitClear(x, bitn)
bit(bitn) // bitn: 0=LSB 7=MSB

Type Conversions

char(val) byte(val)
int(val) word(val)
long(val) float(val)

External Interrupts

attachInterrupt(interrupt, func,
[LOW, CHANGE, RISING, FALLING])
detachInterrupt(interrupt)
interrupts()
noInterrupts()

Libraries

Serial - comm. with PC or via RX/TX

```
begin(long speed) // Up to 115200  
end()  
int available() // #bytes available  
int read() // -1 if none available  
int peek() // Read w/o removing  
flush()  
print(data) println(data)  
write(byte) write(char * string)  
write(byte * data, size)  
SerialEvent() // Called if data rdy
```

SoftwareSerial.h - comm. on any pin

```
SoftwareSerial(rxPin, txPin)  
begin(long speed) // Up to 115200  
listen() // Only 1 can listen  
isListening() // at a time.  
read, peek, print, println, write  
// Equivalent to Serial library
```

EEPROM.h - access non-volatile memory

```
byte read(addr)  
write(addr, byte)  
EEPROM[index] // Access as array
```

Servo.h - control servo motors

```
attach(pin, [min_uS, max_uS])  
write(angle) // 0 to 180  
writeMicroseconds(uS)  
// 1000-2000; 1500 is midpoint  
int read() // 0 to 180  
bool attached()  
detach()
```

Wire.h - I²C communication

```
begin() // Join a master  
begin(addr) // Join a slave @ addr  
requestFrom(address, count)  
beginTransmission(addr) // Step 1  
send(byte) // Step 2  
send(char * string)  
send(byte * data, size)  
endTransmission() // Step 3  
int available() // #bytes available  
byte receive() // Get next byte  
onReceive(handler)  
onRequest(handler)
```

Variables, Arrays, and Data

Data Types

boolean true | false
char -128 - 127, 'a' '\$' etc.
unsigned char 0 - 255
byte 0 - 255
int -32768 - 32767
unsigned int 0 - 65535
word 0 - 65535
long -2147483648 - 2147483647
unsigned long 0 - 4294967295
float -3.4028e+38 - 3.4028e+38
double currently same as float
void i.e., no return value

Strings

```
char str1[8] =  
{'A', 'r', 'd', 'u', 'i', 'n', 'o', '\0'};  
// Includes \0 null termination  
char str2[8] =  
{'A', 'r', 'd', 'u', 'i', 'n', 'o'};  
// Compiler adds null termination  
char str3[] = "Arduino";  
char str4[8] = "Arduino";
```

Numeric Constants

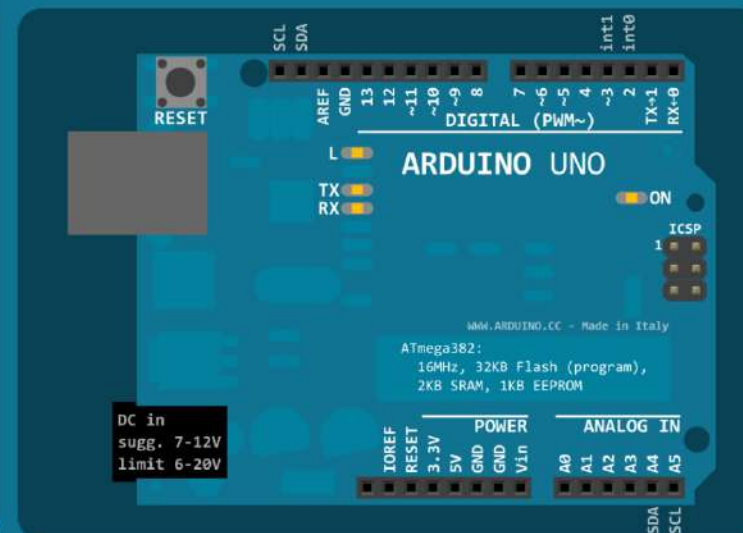
123 decimal
0b01111011 binary
0173 octal - base 8
0x7B hexadecimal - base 16
123U force unsigned
123L force long
123UL force unsigned long
123.0 force floating point
1.23e6 1.23*10⁶ = 1230000

Qualifiers

static persists between calls
volatile in RAM (nice for ISR)
const read-only
PROGMEM in flash

Arrays

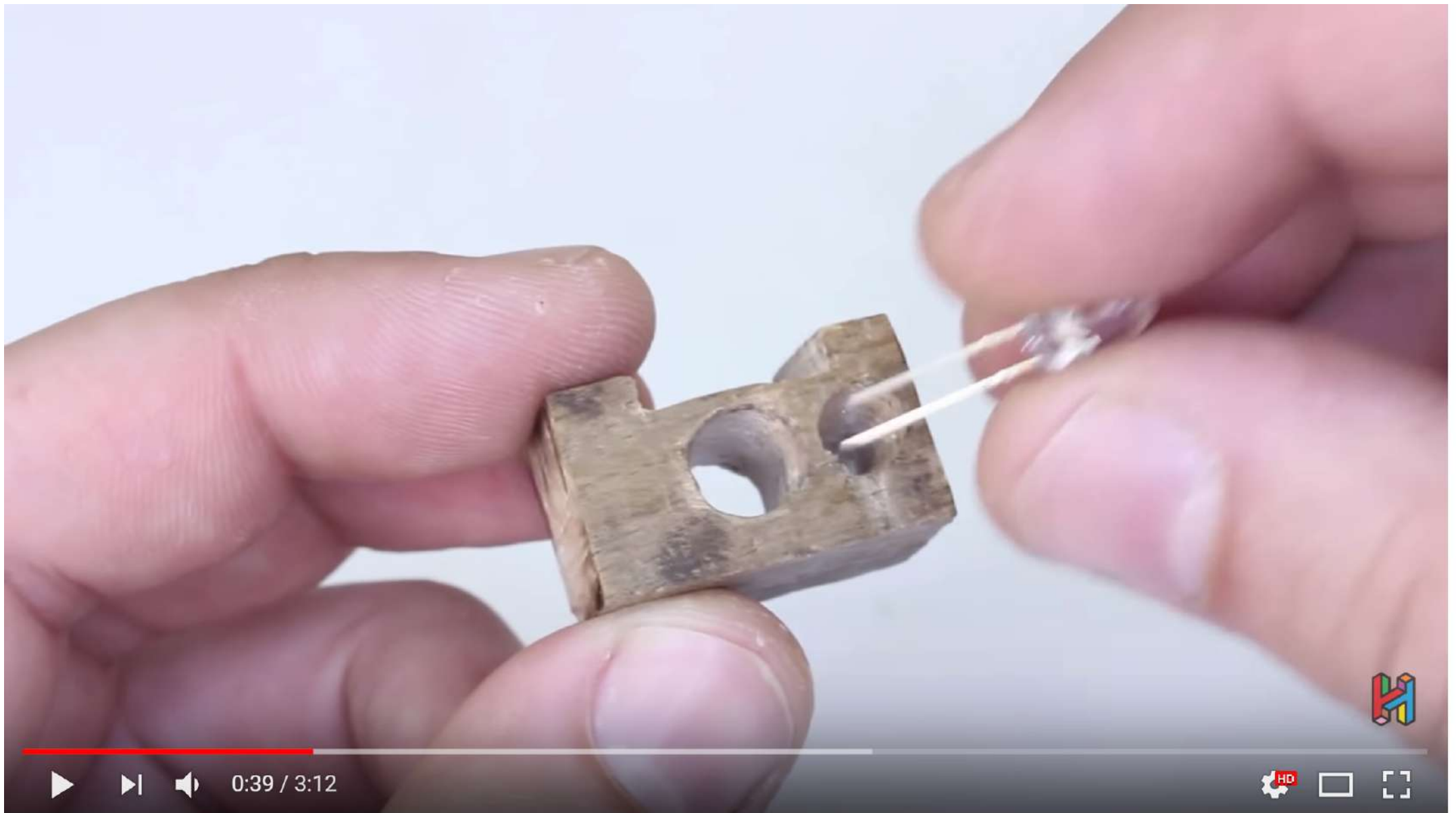
```
int myPins[] = {2, 4, 8, 3, 6};  
int myInts[6]; // Array of 6 ints  
myInts[0] = 42; // Assigning first  
// index of myInts  
myInts[6] = 12; // ERROR! Indexes  
// are 0 though 5
```



by Mark Liffiton

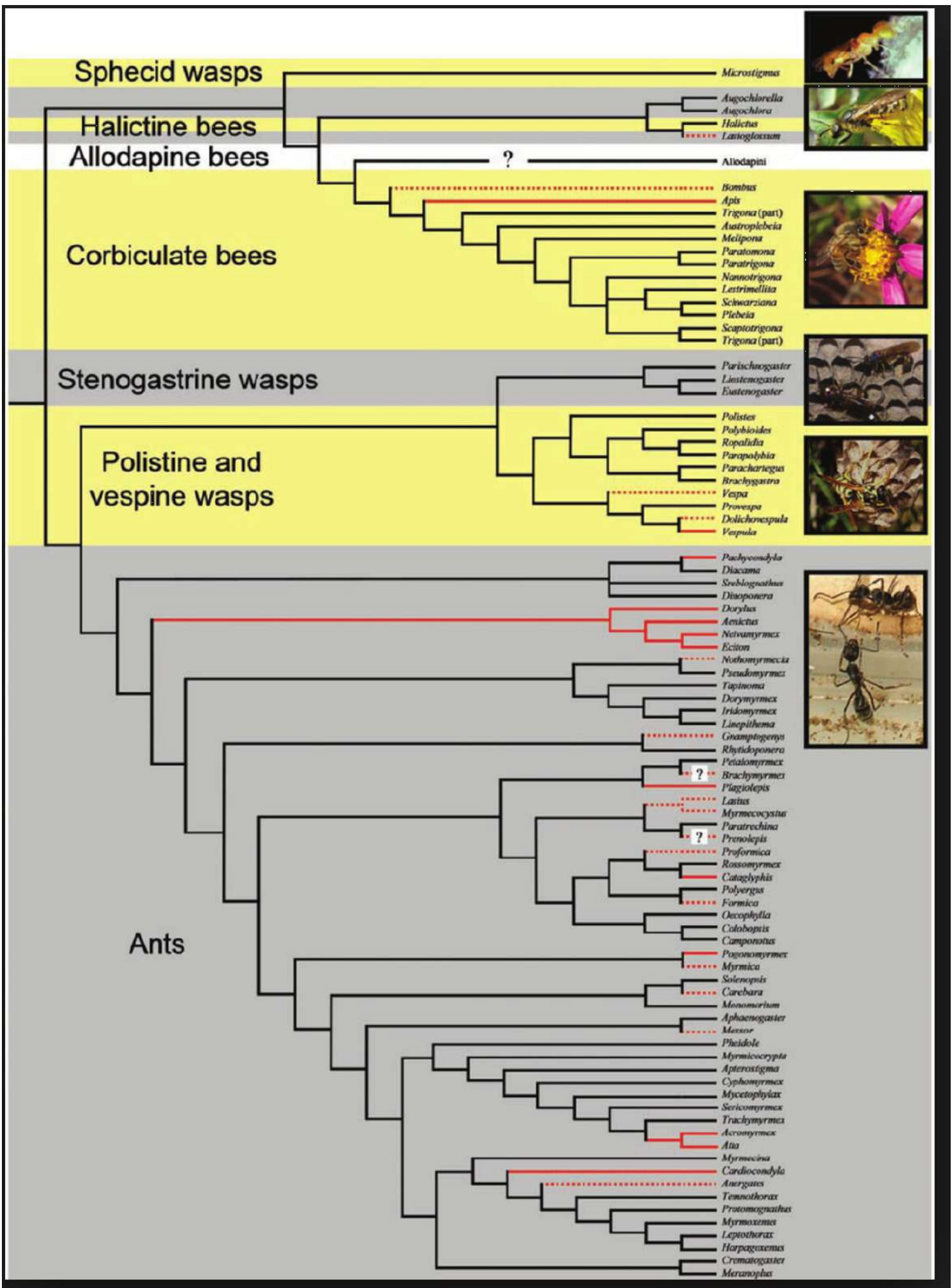
Adapted from:

- Original: Gavin Smith
- SVG version: Frederic Dufourg
- Arduino board drawing: Fritzing.org



DIY Mini Soldering Iron













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JAPANESE GIANT HORNET & AFRICAN KILLER BEES



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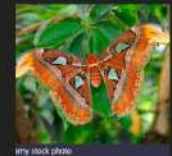
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10 Bullet Ant



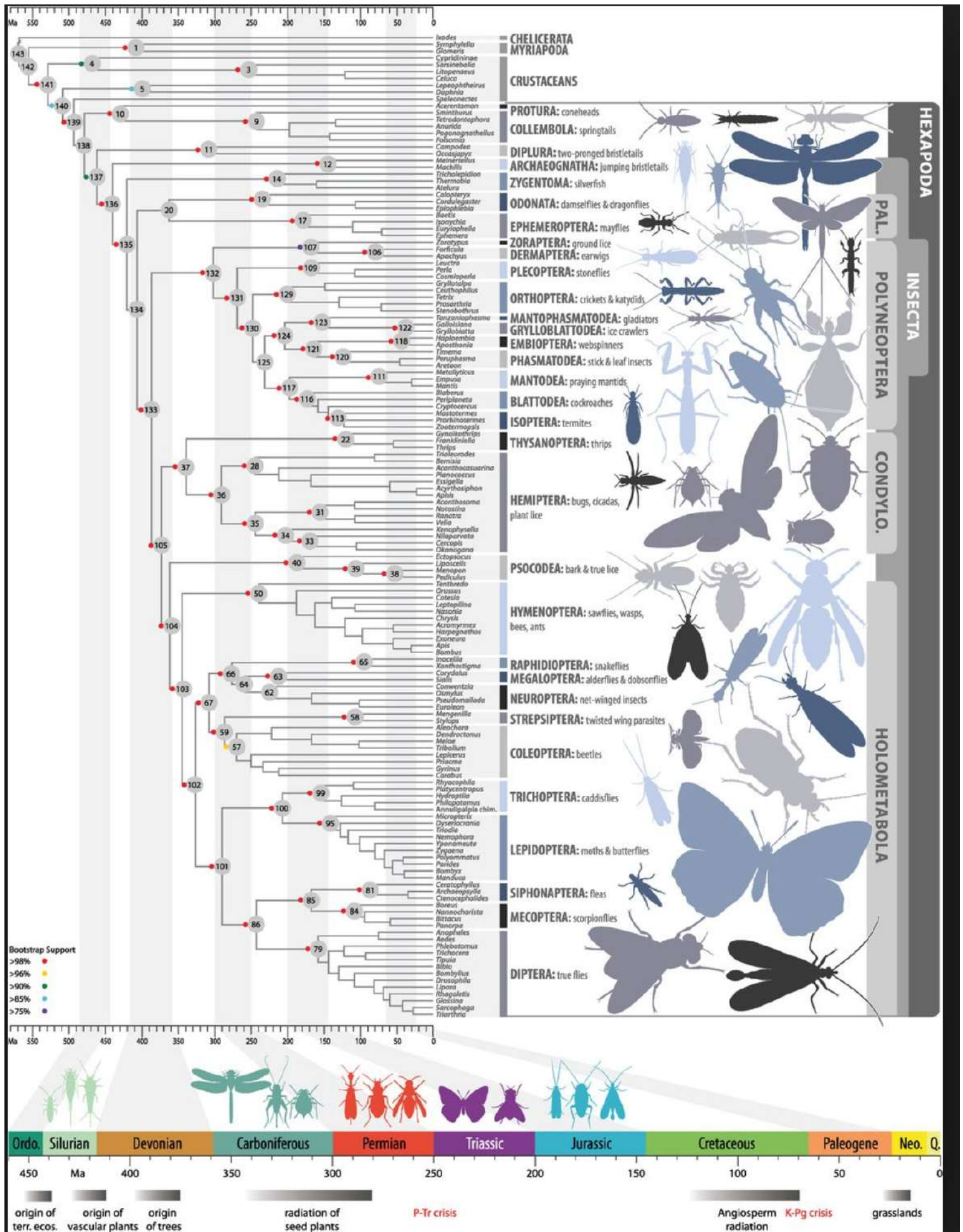




2 | Arizona Bark Scorpions



3 | Brown Recluse Spiders





4 | Black Widow Spiders





BANANA SPIDER

oogole.com/url?sa=i&source=images&cd=&ved=2ah0REWmWu_qbDqAhUPWK...



Camel spider, wind scorpion, sun spider, solifuges

11. Camel spider – 15 cm (5.9 in)

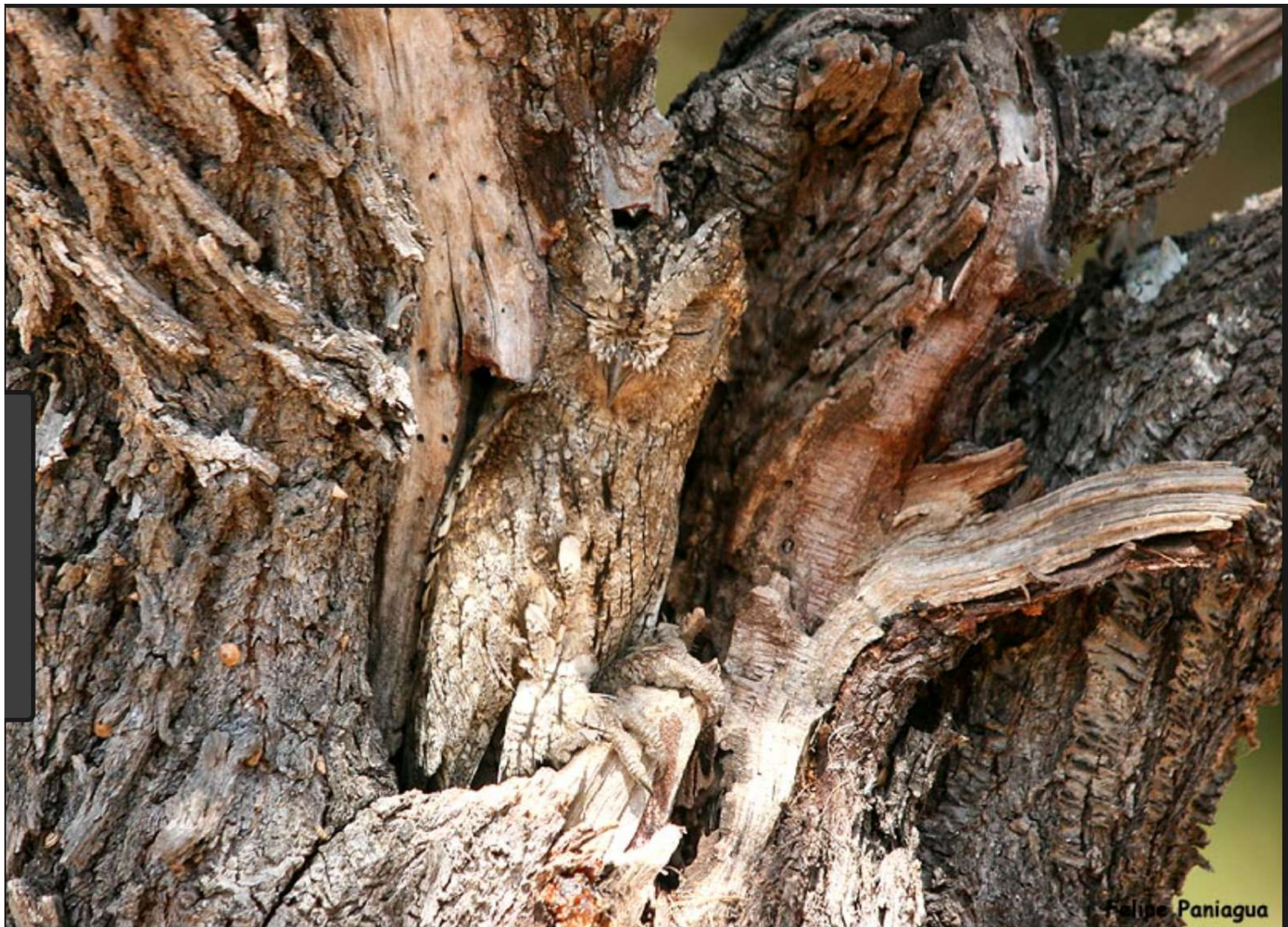


Goliath Bird Eater Tarantula



Golden silk orb-weavers (Nephila)

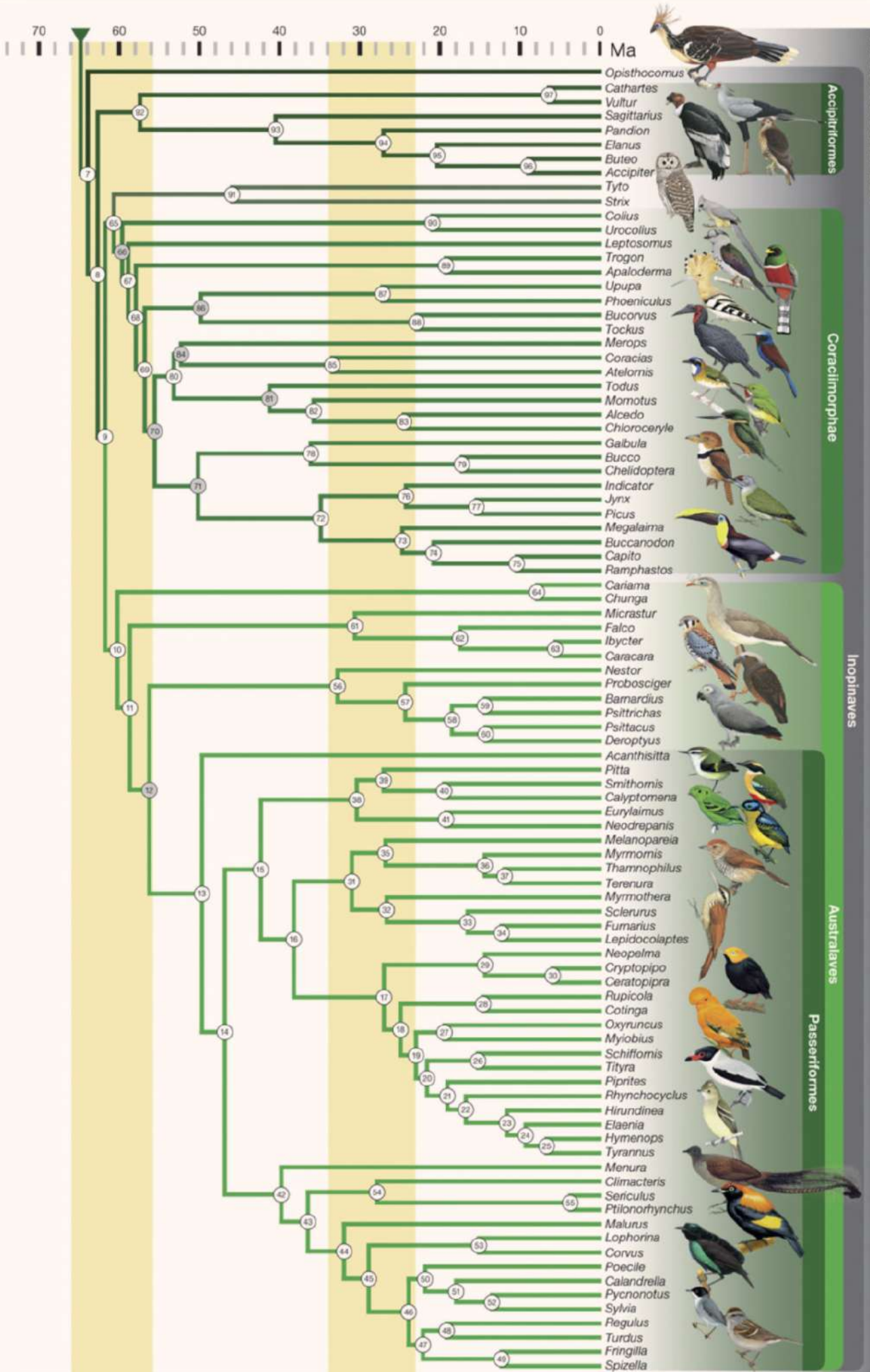
10. Golden silk orb-weavers (*Nephila*) – 15 cm



Felipe Paniagua







Upper	Palaeocene	Eocene	Oligocene	Miocene	Pli.	Ple.
Cretaceous	Palaeogene		Neogene		Q.	



Grasshoppers are easy to catch and protein-rich.

By the Photographer



Ants are everywhere, easy to catch, and actually taste good. They're also easy to find.

Maciej Forc / Flickr



Termites are a great source of protein, and since they live most of their lives buried away in wood, they are less likely to carry parasites than other insects.

Pin it



This is probably the one you dreaded reading about. Grubs are very easy to find and collect, and some even taste not-disgusting.



Also called “sow bug”, “potato bug”, or “pill bug,” the wood louse is actually not a bug at all.



Pretty much everyone knows how to find earthworms, though few have probably eaten them.



Yep, believe it or not, stinkbugs are edible. They break the usual “don’t eat it if it smells bad” rule.

1000 B.M. (5/11)



Scorpions are a common street food in China and can be found in California, Arizona, New Mexico and other Southwest states. They taste a bit like crab.

EARWIG





Aphids are tiny little insects that love sweet, sweet sap. They're very small—you could probably fit more than 50 on a penny.



Maggots are pretty gnarly and maybe not prime snack material. But they're edible, so they've got that going for them.

Katia Schulz / Flickr



Dragonflies have two life-cycle stages: nymph and adult. Both of these stages are edible—though one is much easier to catch than the other.

hmv23 / Flickr

Which bugs are safe to eat and where can I find them?

Name of Insect	Where Can I Find Them?	Peak Season?	Active Day or Night?	Cook Them?
Grasshoppers and Crickets	In grass	Summer months (can be found year-round)	Grasshoppers day; crickets night	Yes; pull off head and legs
Ants	Everywhere	Weather-dependent: after rainstorms and during droughts	Day	Yes
Termites	in decomposing wood	Spring	Day	Yes
Grubs	In rotting logs; one to two inches deep in loamy soil	Late summer/early fall	Either (they're eggs, so they're really not on the move)	Can be eaten raw, but yes, cook them
Woodlice	In rotting vegetation (like a pile of leaves or dead wood)	Spring, autumn and winter	Day	Yes
Earthworms	In dirt (or above ground if it's just rained)	Spring (when it's wet)	Day	Yes
Stinkbugs	Around crops and gardens	March - September	Night	Yes
Scorpions	In dens; under logs, wood, clutter	Most active in the summer (can be found year-round; usually inactive in the winter)	Night	Yes; cut off stinger
Earwigs	Under rocks; in dark, damp places	Fall (can be found year-round)	Either	Yes
Aphids	On plants	Spring	Day	Yes
Maggots	In carrion; under wood; in fruits and veggies	Black fly maggots peak late May/early June	Either	Can be eaten raw, but yes, cook them
Dragonflies	Near water sources	Spring/summer	Day	Yes, pull off wings and legs

Edible Bugs You Probably Want to Avoid

These bugs are edible, but either harder to find or riskier to collect and eat. You may want to exercise caution before eating these—or at least know what you're getting yourself into.

- Slugs and snails
- Tarantulas
- Bees and wasps
- Caterpillars

Slugs and Snails

While their flesh is benign, there's a high enough likelihood that they've fed on something toxic—like poisonous plants or mushrooms—to make eating them inadvisable. The ones that you eat in a restaurant have been fed safe-to-eat plants; the people preparing them know exactly what those snails were eating. The same can't be said of an in-the-wild snail's diet. If you wild snails or slugs, you risk contracting rat lungworm, which can turn into eosinophilic meningitis (causing severe brain and nervous system damage). These diseases usually hide in the digestive tract of the slugs and snails, so cooking them won't necessarily guarantee that they're disease-free system. If snails are your only meal option, you can also feed them plants you know aren't poisonous for a week before eating them. Then be sure to cook them thoroughly.



While their flesh is benign, there's a high enough likelihood that they've fed on poisonous plants or mushrooms to make eating them inadvisable.

David Rynde / Flickr

Tarantulas

Fun fact: fried spider is a delicacy in Cambodia. Remove as much hair as you can, and don't eat the fangs. If you cook them, curled legs are an indicator of how done they are and how well cooked the insides are. One of the most common edible spiders is the Thai zebra spider, but it is venomous and aggressive.



Remove as much hair as you can, and don't eat the fangs.

Bart van Dorn / Flickr

Bees and Wasps

Cut off the stingers and legs. Cook well. But be forewarned: These fliers are dangerous to catch. If risking stings is worth it (or you don't have another choice), you can try plugging the hive, and then smoke the whole thing with some sort of improvised torch to kill everything inside. These are on the "honorable mention" list only because they're hard to catch and will attack you without remorse. That said, bee larvae can be eaten, and they're less likely to fight back.



Cut off the stingers and cook well.

Andy Murray / Flickr

Caterpillars

Some are toxic, like the giant silkworm moth and the puss caterpillar. Bright ones and hairy ones tend to be toxic, but that isn't a set-in-stone rule. So either do some research about the area you plan to be stranded in or proceed with extreme caution. If you're stranded and looking to survive, this probably isn't the best gamble.



Some are toxic, so either do some research about the area you plan to be stranded in or proceed with extreme caution.

tinkerbrad / Flickr

Which Bugs Shouldn't I Eat and Why?

Bug	Don't Eat It Because...
Slugs and Snails	You don't know what they ate. They love eating poisonous plants. Cooking them doesn't boil out this poison. They also carry rat lung worm (and it's as awful as it sounds).
Tarantulas	They have no qualms about jumping on you and attacking you. They're aggressive.
Bees and Wasps	These guys will kamakaze you. You could get stung by them. Other insects are likely more readily available, and they're definitely less likely to attack back
Caterpillars	Some are toxic, and unless you know which is which beforehand, now is probably not the time to guess wildly.

Telltale Signs a Bug Might Kill You

While the majority of bugs are safe to eat, there are a few precautions you should take:

- **Avoid Bright Colors:** Don't eat any insects that are brightly colored; their coloration is a warning to predators that they're toxic. That even goes for the insects on this list.
- **Avoid Hairy Things:** Avoid hairy bugs; there may be stingers nestled in the fuzz.
- **Avoid Smelly Things:** Also avoid any bugs that have a potent smell (except, paradoxically, stinkbugs).

Front
Range
First Defense

10 UCO Stormproof

Matches

40ft of 6lb Monofilament
Fishing Line

BIC LIGHTER

LIFE GEAR WATERPROOF
CONTAINER

2 MATCH STRIKE
PADS

(4) 1 MINUTE BURN
FIRE TINDER

FIRE STARTING
TINDER

15ft of 30lb Moss
Green Braided line

10
Rubber
Bands

MIRROR

Life Gear
4 Mode
Flashlight
3 AA
Batteries
Included

FISHING
GEAR

4 WATER
PURIFICATION
TABLETS

10 FT OF TITAN
SURVIVORCORD

Helpful Tips and Picture
Guide for Snares, Knots, Traps,
Shelter Construction and more...

2IN
4IN TOTAL
SERRATED FOLDING
KNIFE

12 IN 1 SURVIVOR
FLASHLIGHT







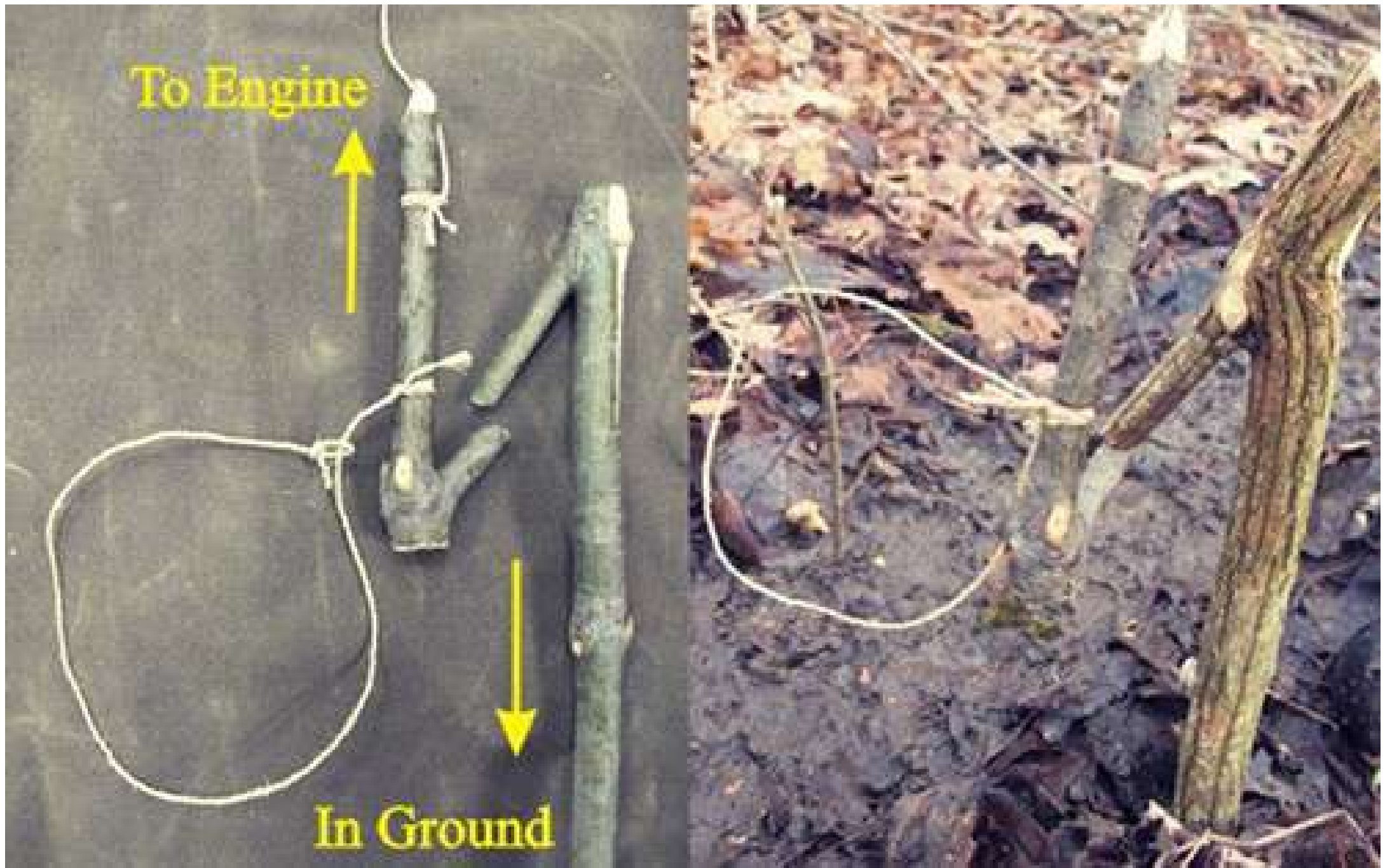


To Engine

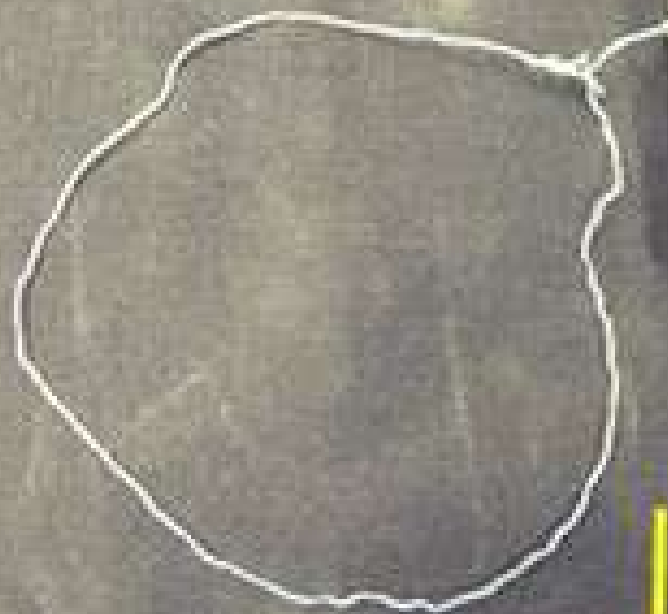


In Ground





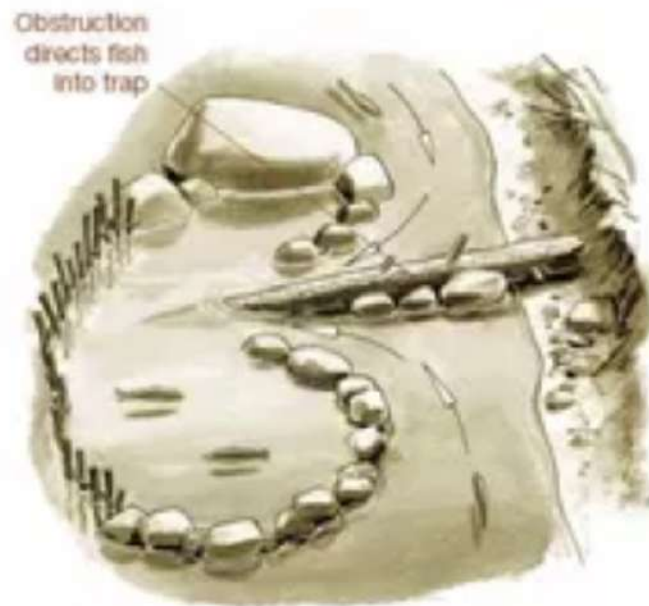
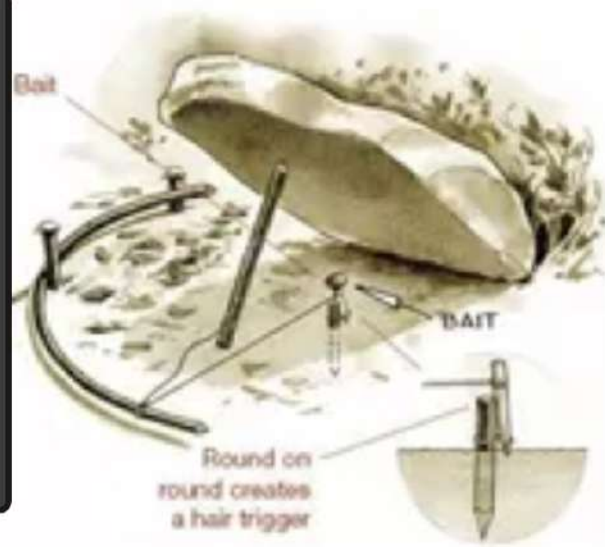
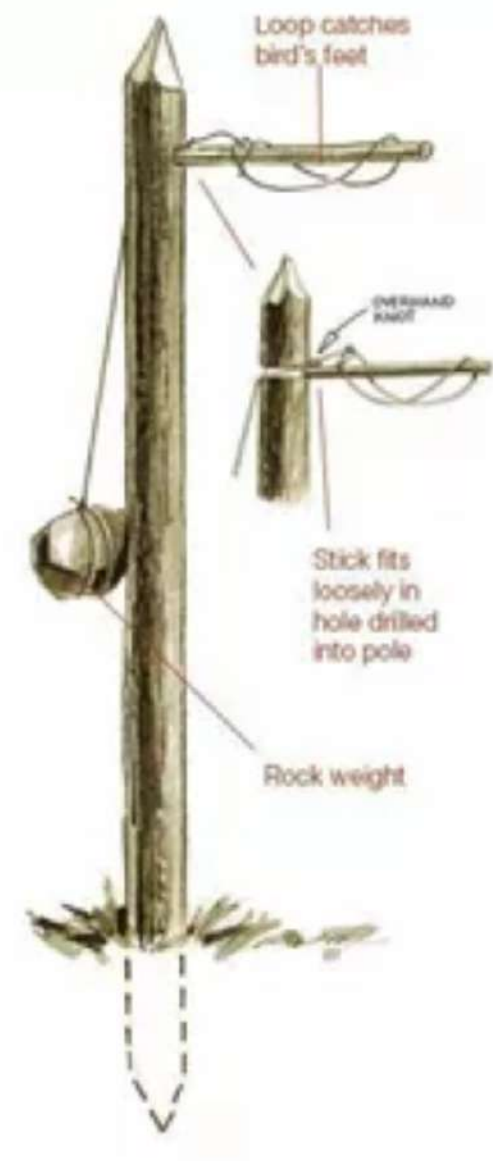
To Engine

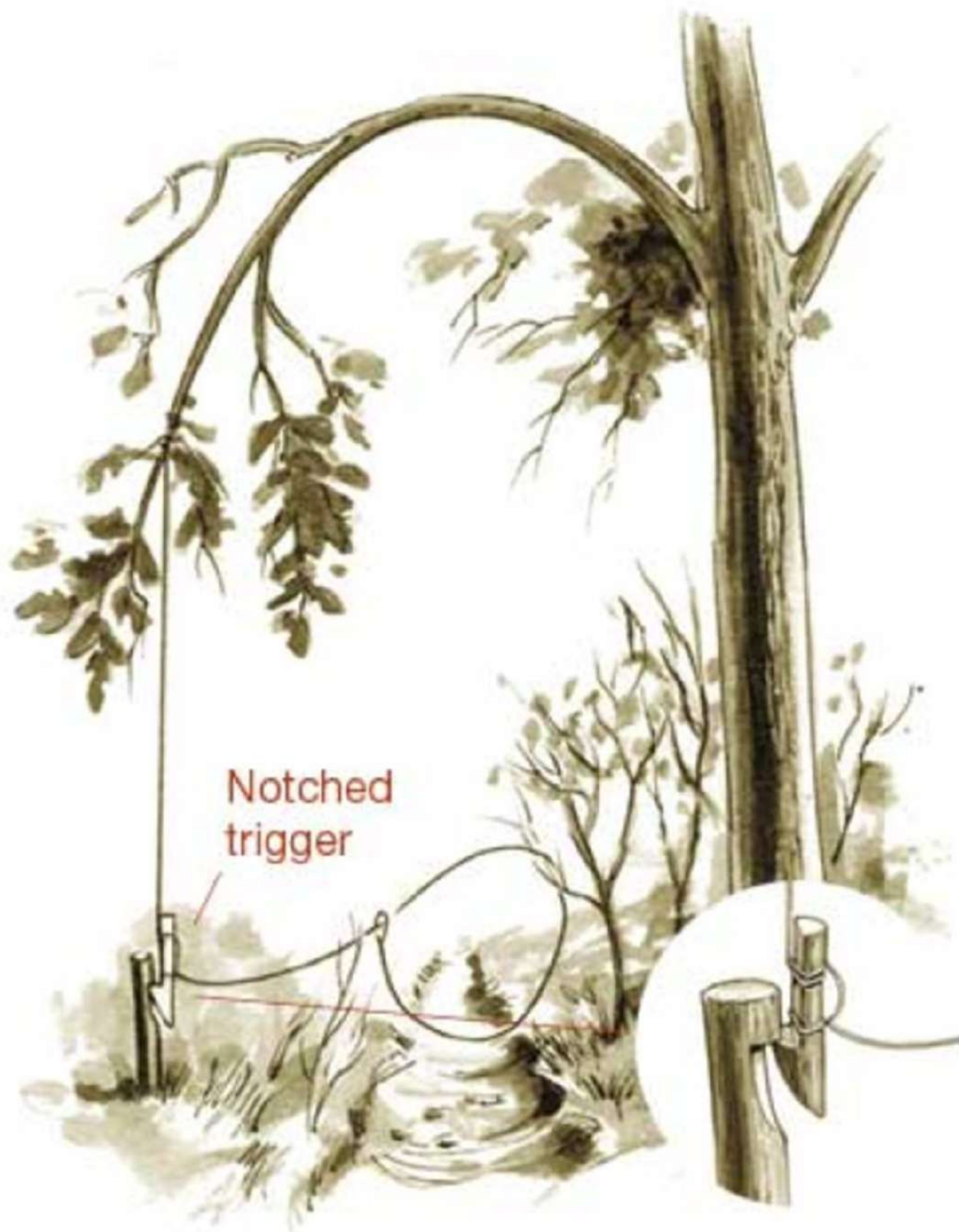


In Ground

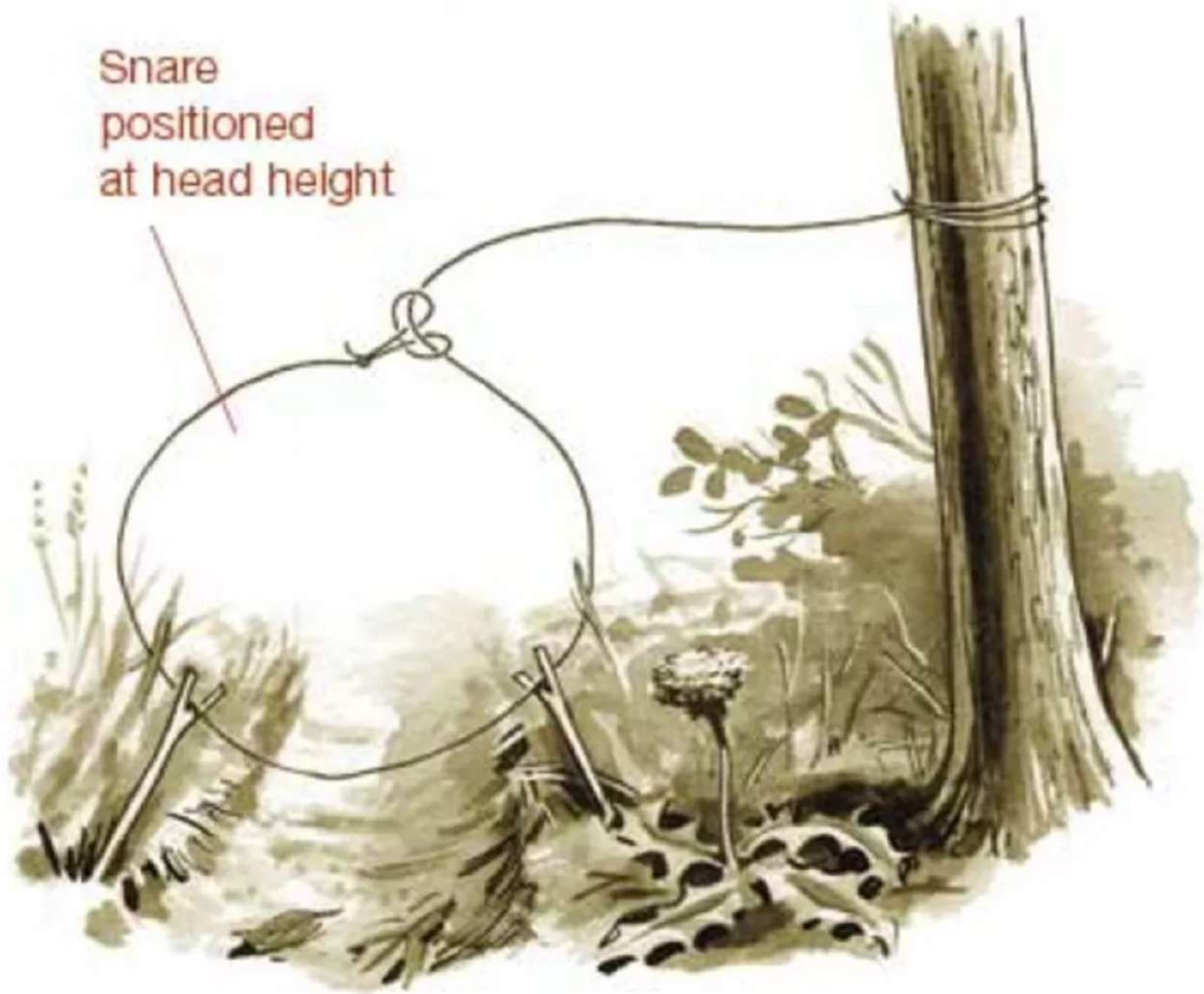




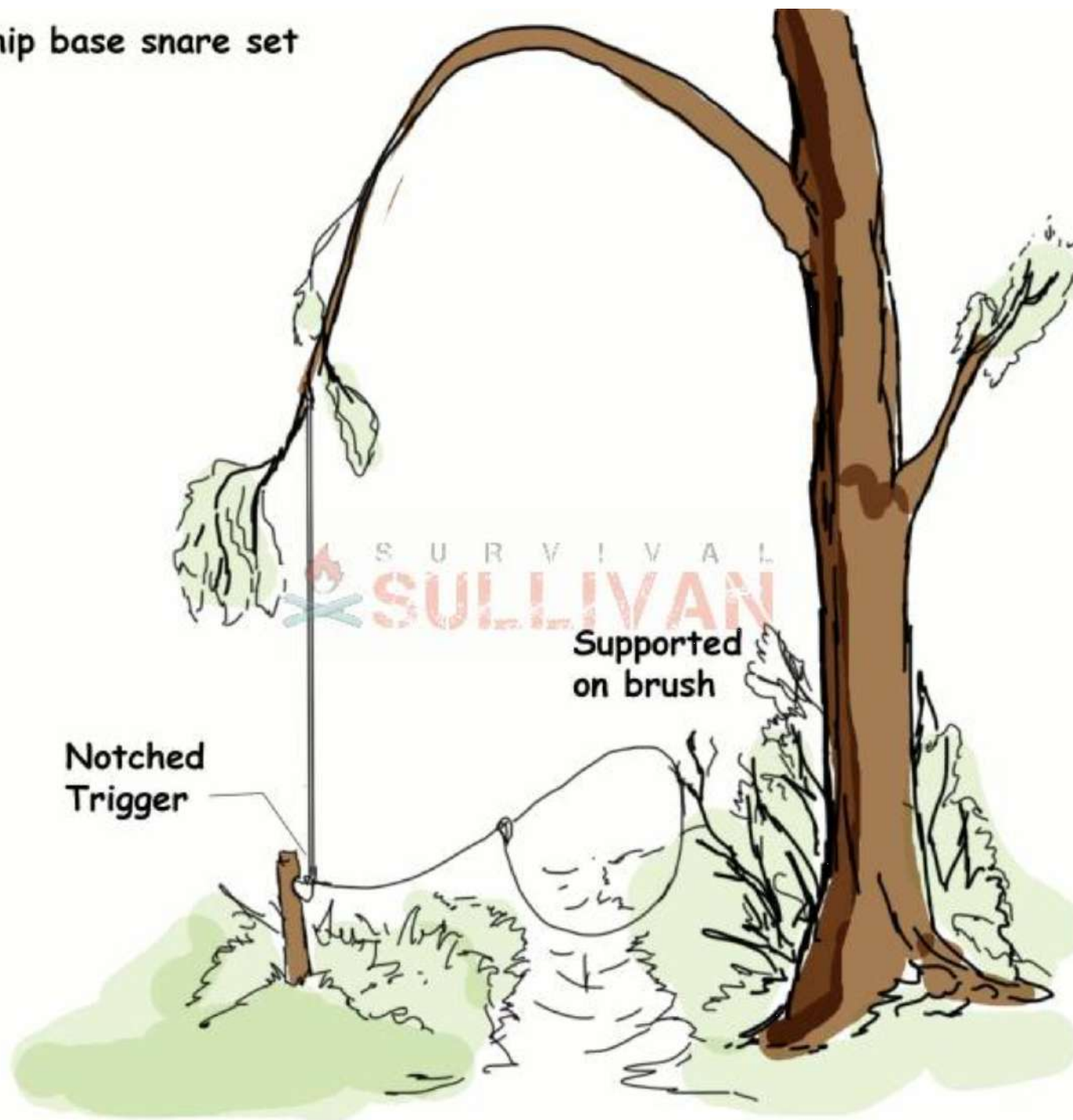


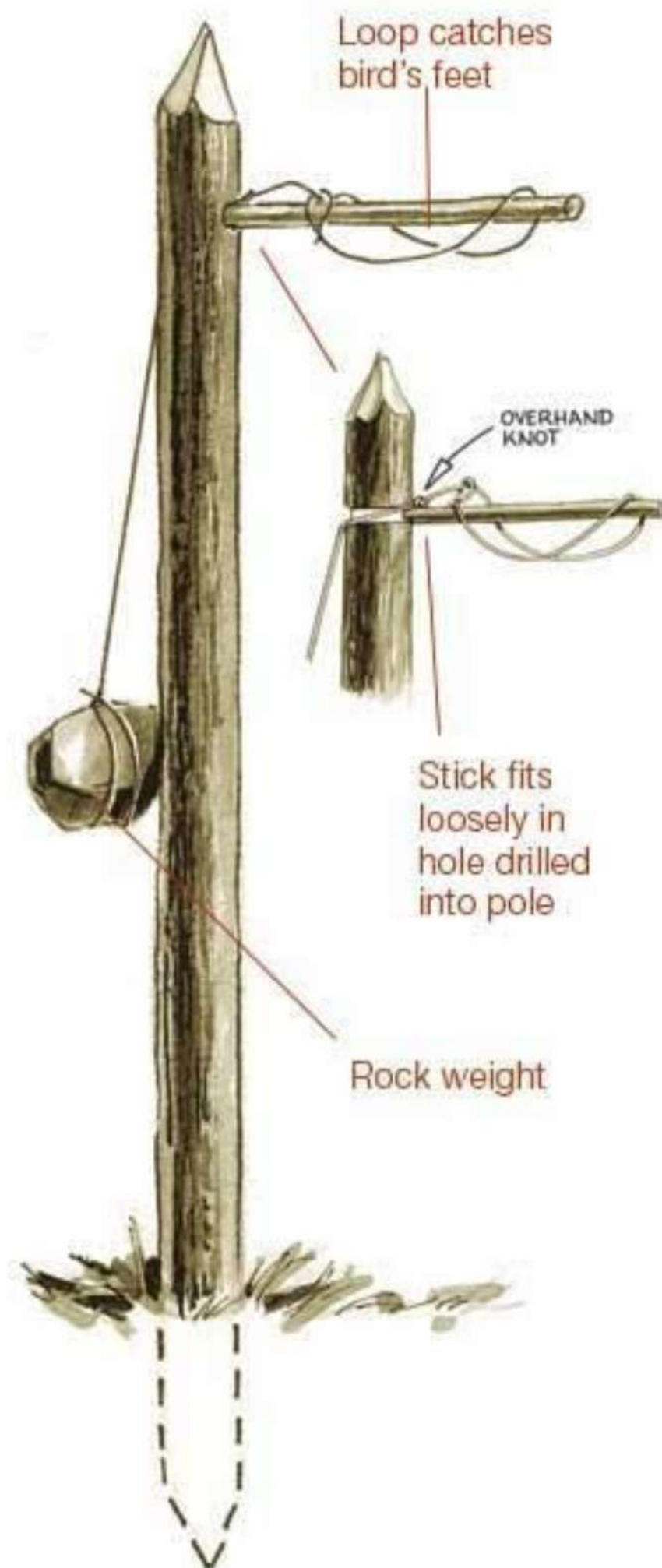


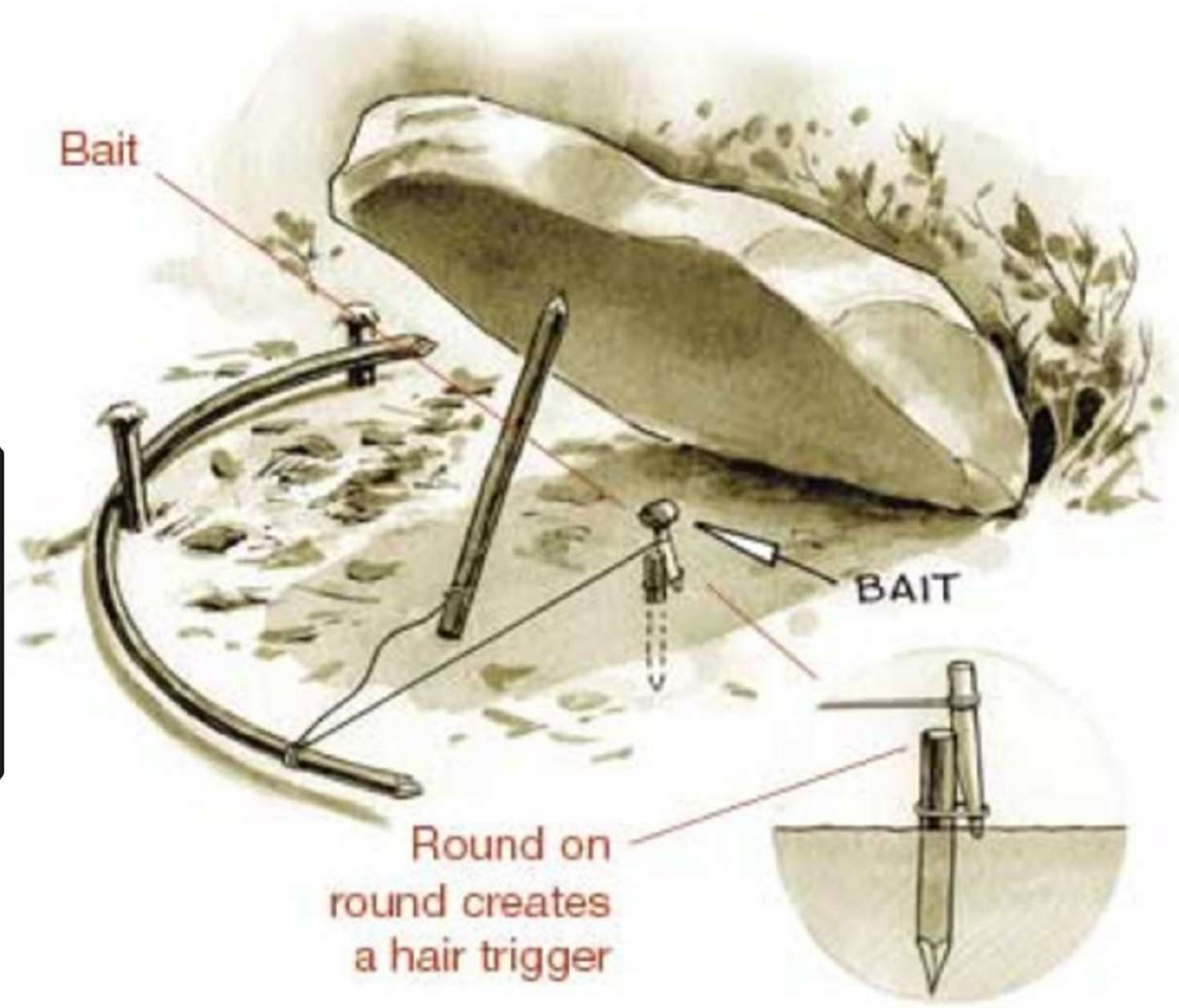
Snare
positioned
at head height



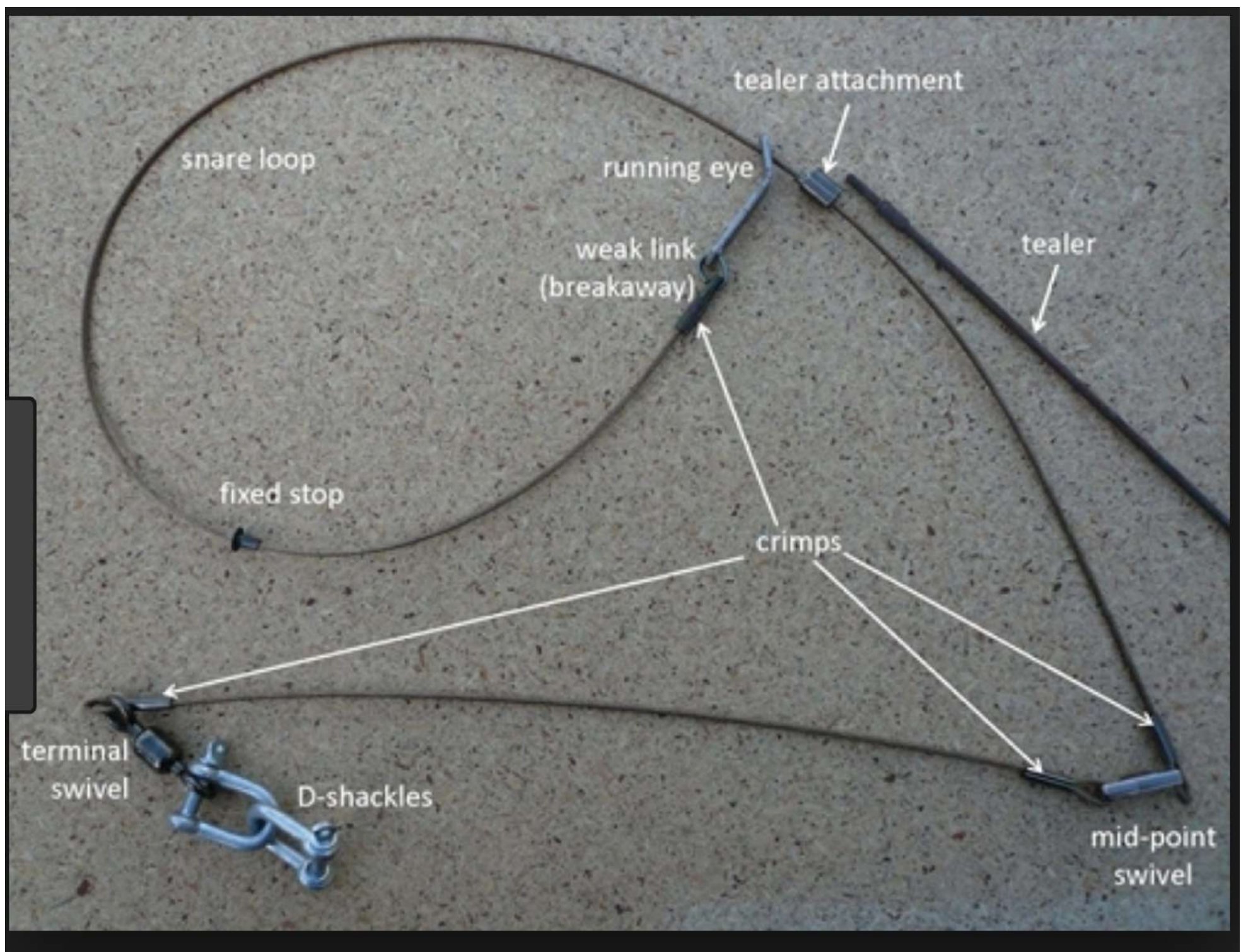
Whip base snare set
















Single-Use Rotatable Snare - Boston S..

bostonscientific.com

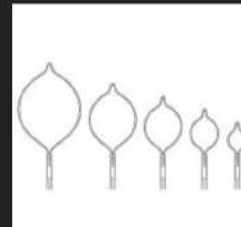
 Visit

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Polypectomy Snare

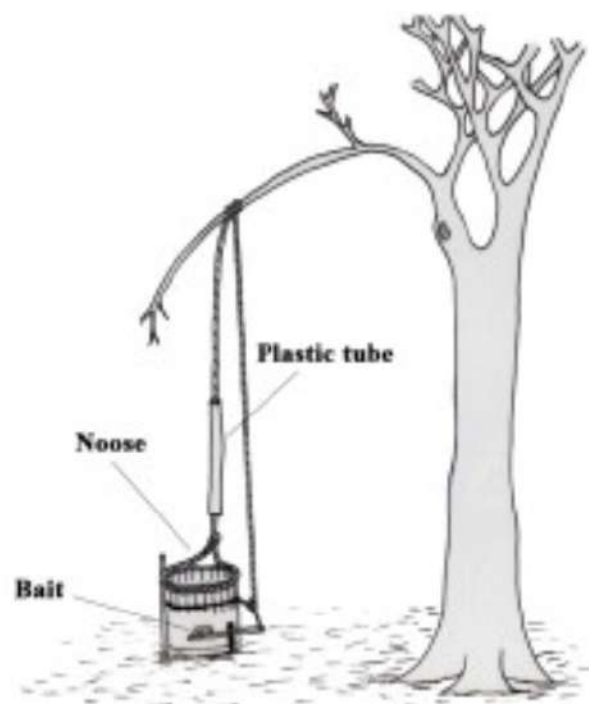
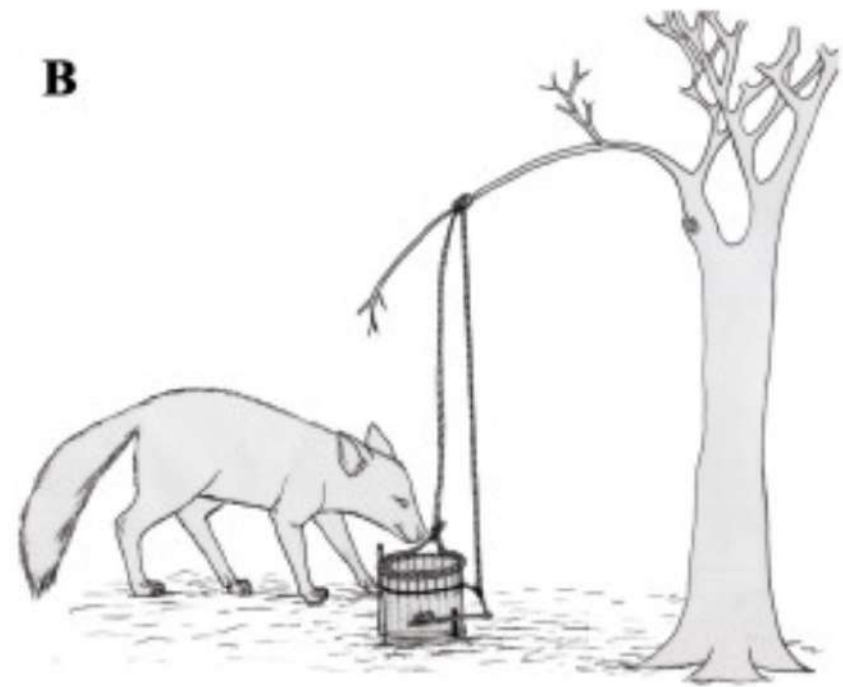
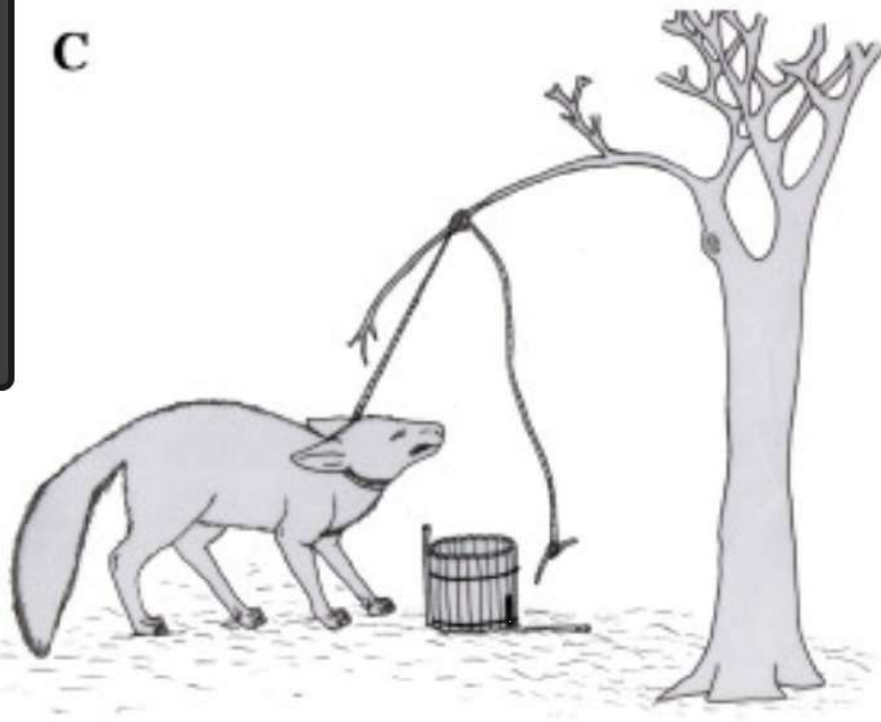


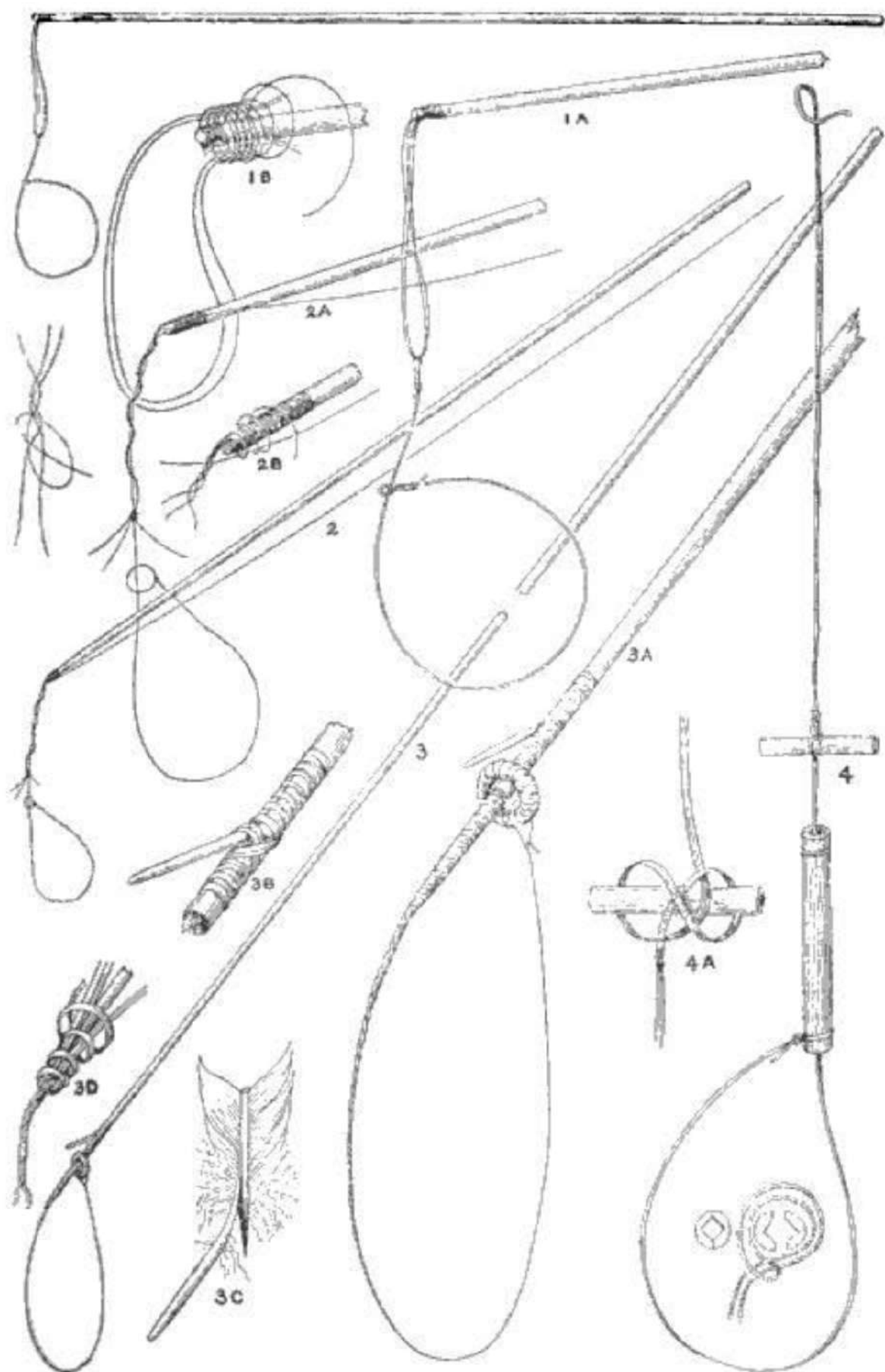
View
more

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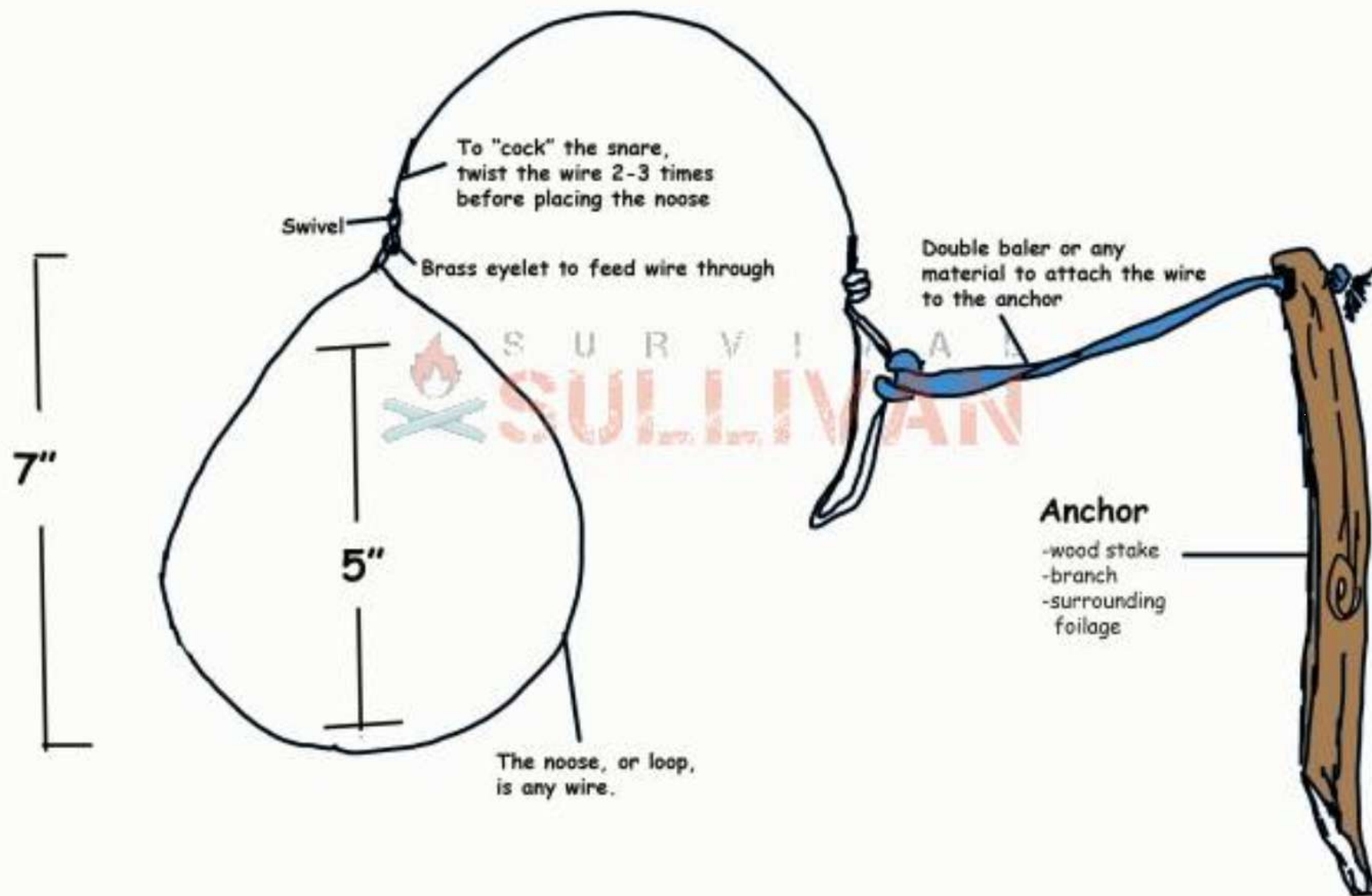


TRAPS OF THE AMERICAN INDIANS STEPS OF AUTOMATISM *** THE GRASPING DEVICE.

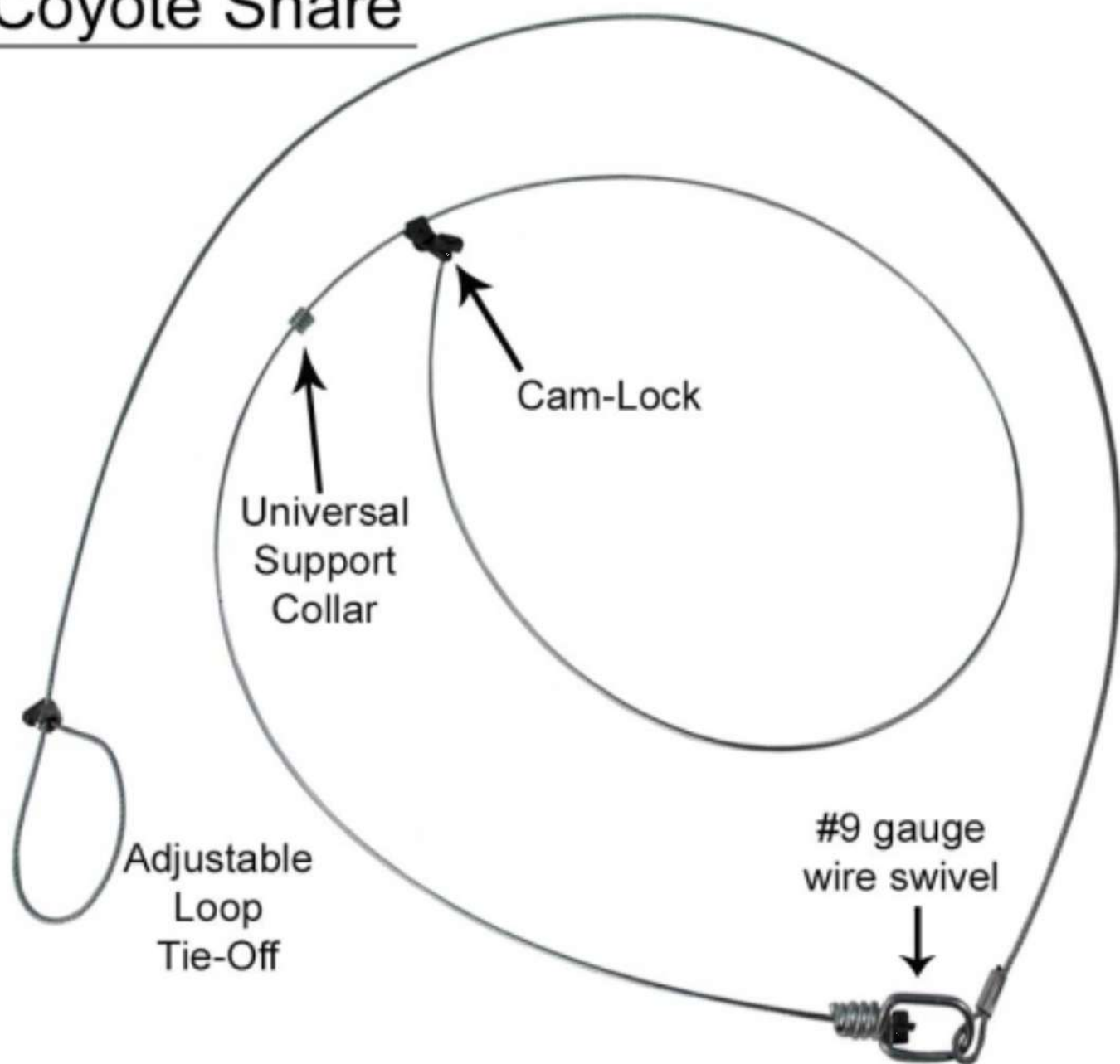
1. Common dull. 2. dull and tickler. 3. dull and ratchet. 4. complex moose-trap

(Courtesy Smithsonian Institution.)

The Basic Anatomy of a Rabbit Snare

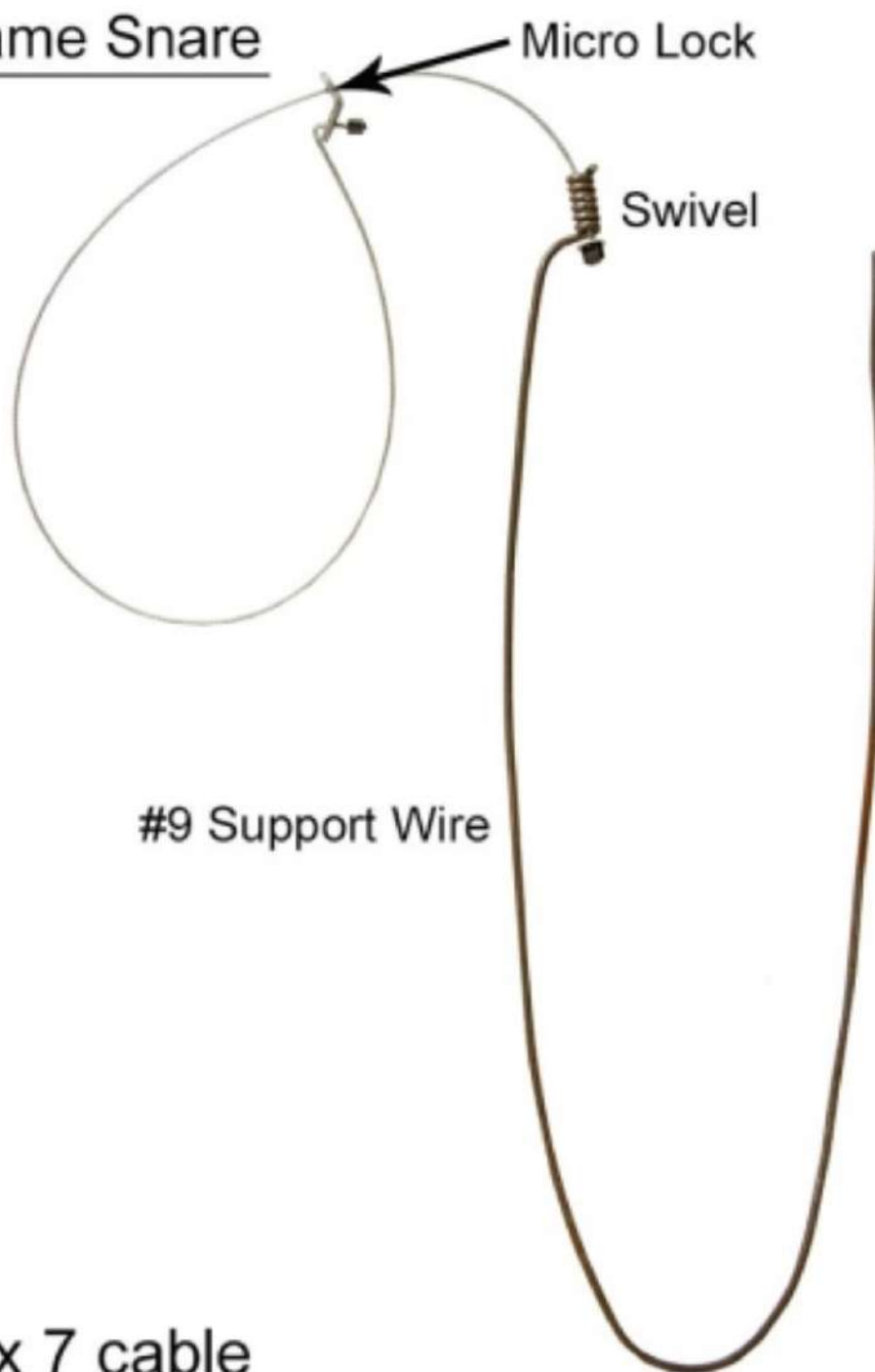


Coyote Snare

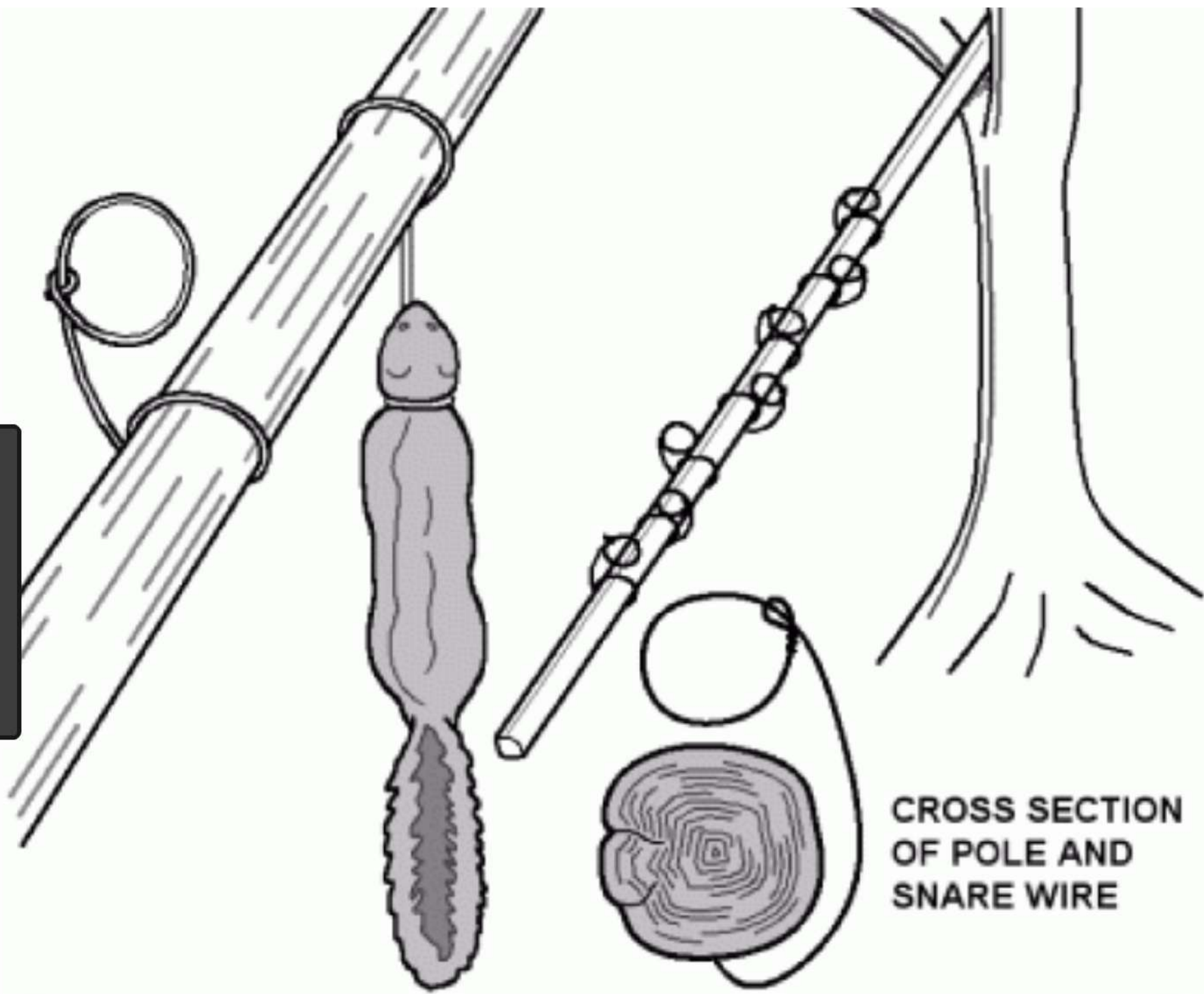


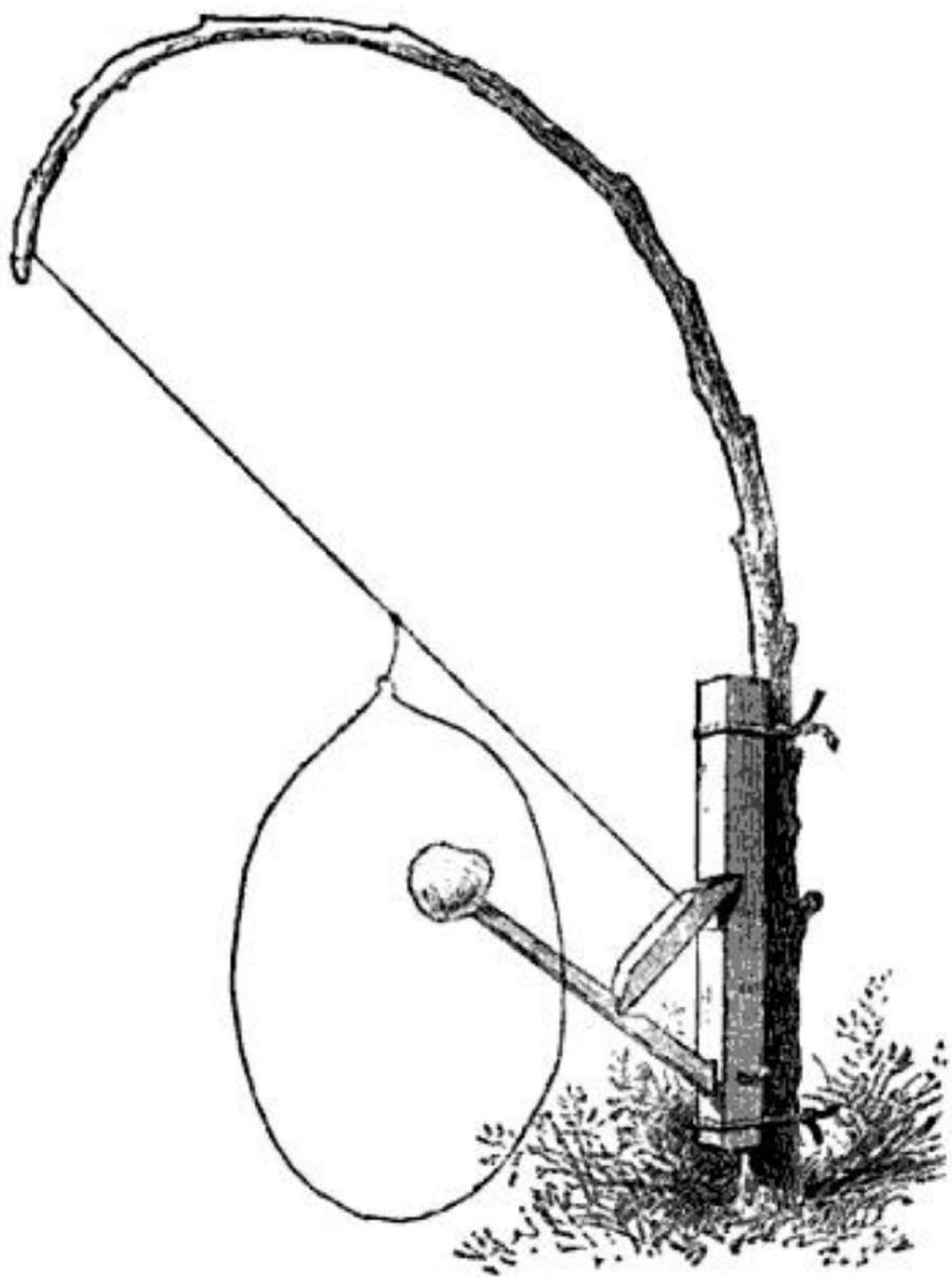
10 ft. total length

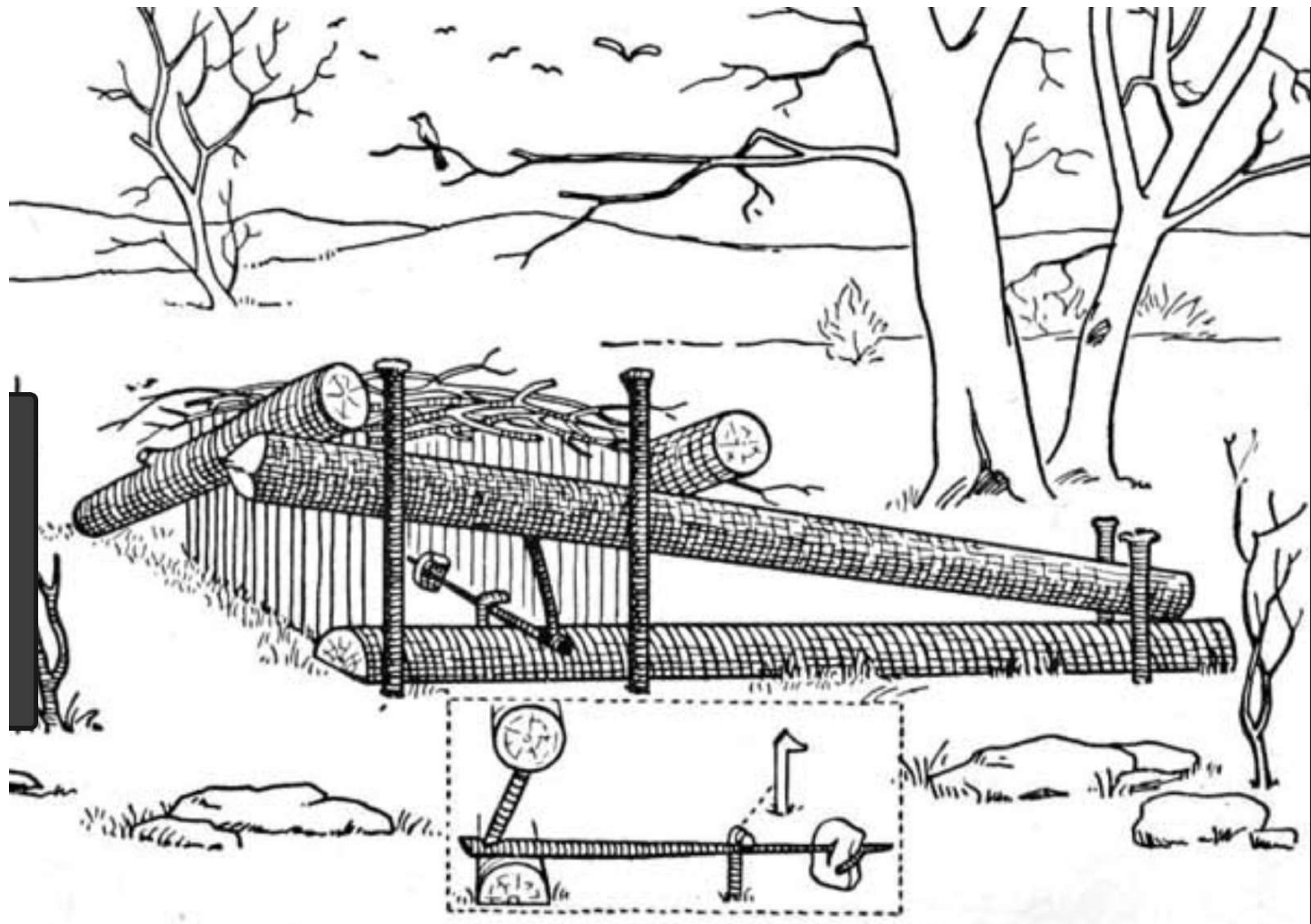
Small Game Snare

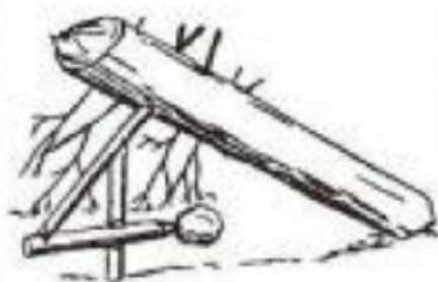


1/16" 7 x 7 cable





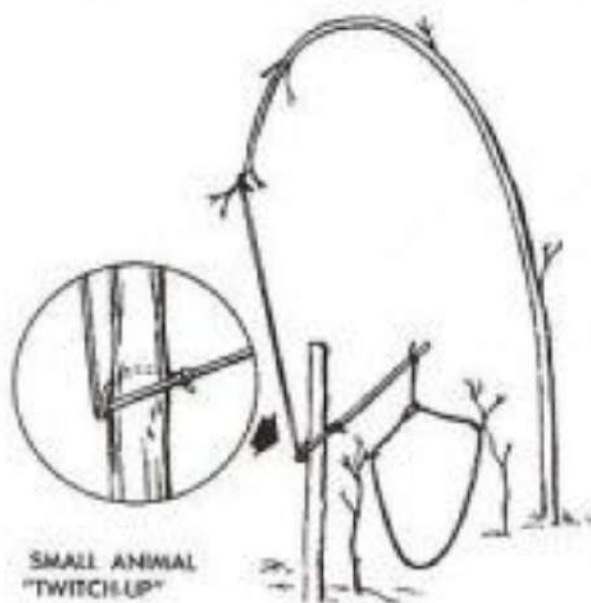
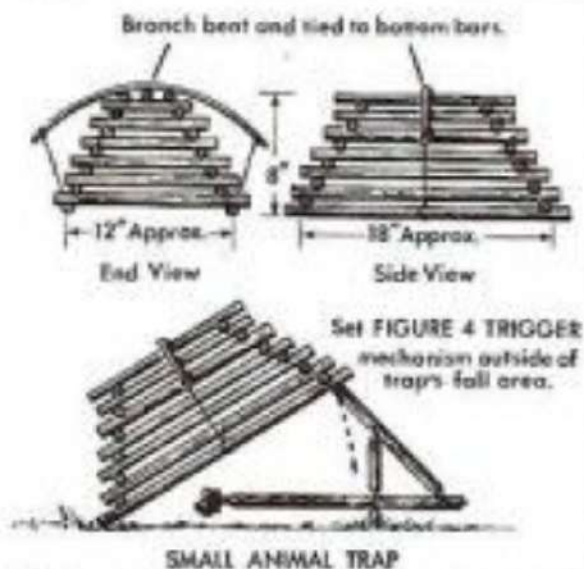




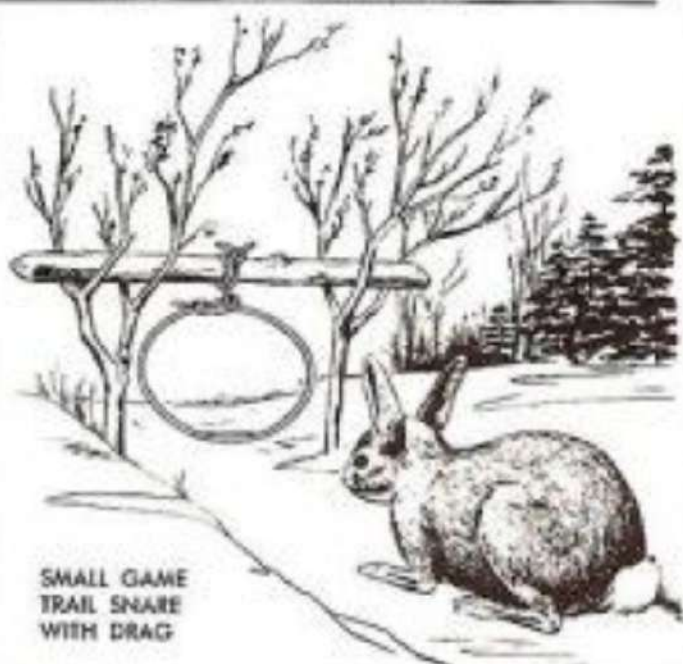
DEADFALL WITH
FIGURE 4 TRIGGER



"TWITCH-UP" SNARE



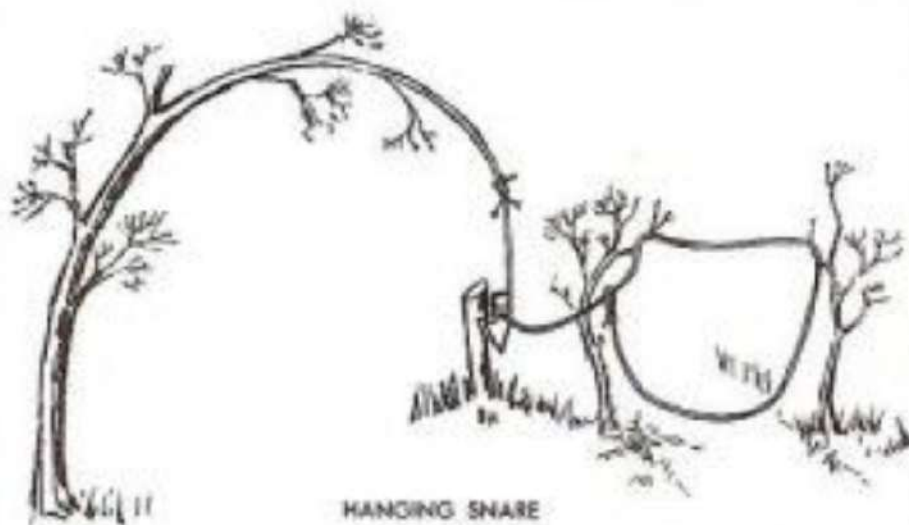
SMALL ANIMAL
"TWITCH-UP"



SMALL GAME
TRAIL SNARE
WITH DRAG



PTARMIGAN OR
SMALL GAME SNARE

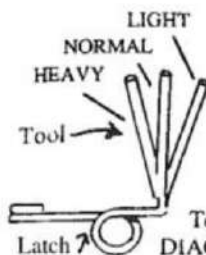
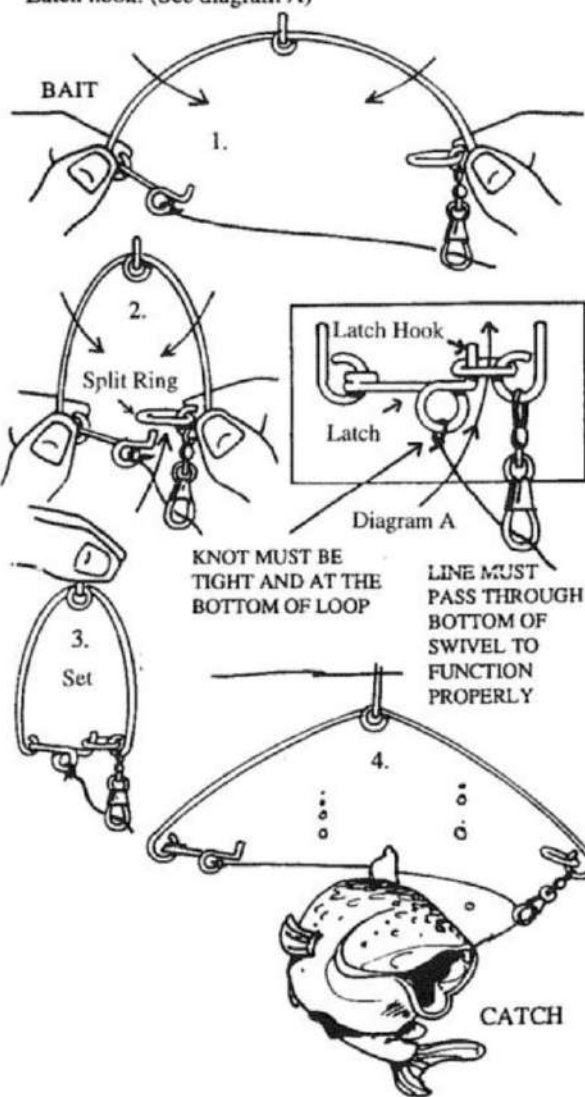


HANGING SNARE

Figure 2-29. Traps, Snares, and Deadfalls for Small Animals

ALWAYS BAIT HOOK FIRST BEFORE SETTING

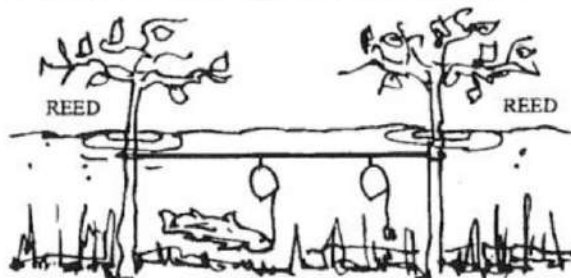
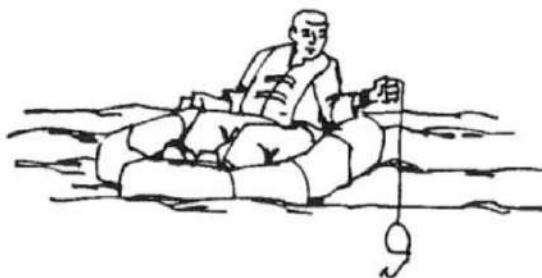
To set speedhook, bring spring arms together until you can put latch hook into **BOTTOM** of **SPLIT RING**. Latch hook. (See diagram A)



Tool is in plastic bag with dehydrated bait.

To Set Tension
DIAGRAM B

To set tension you must bend latch hook inward to tighten, or outward to loosen. (see diagram B) Inward would be used in rushing water or when speedhook trips prematurely. Outward would be used for ice fishing or catching very small fish: (Outward requires less force to trip.) To replace line on latch, knot must be tied against latch loop and must go through safety snap swivel. (see diagram A)



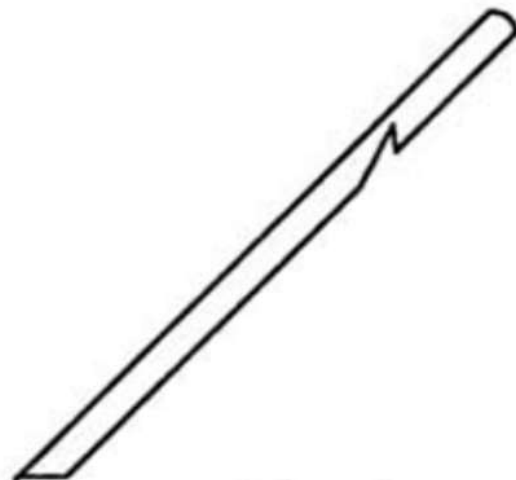


Front
View



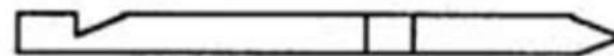
Side
View

Upright Stick

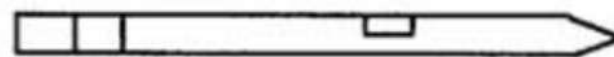


Front
View

Release Stick



Front
View



Top
View

Bait Stick

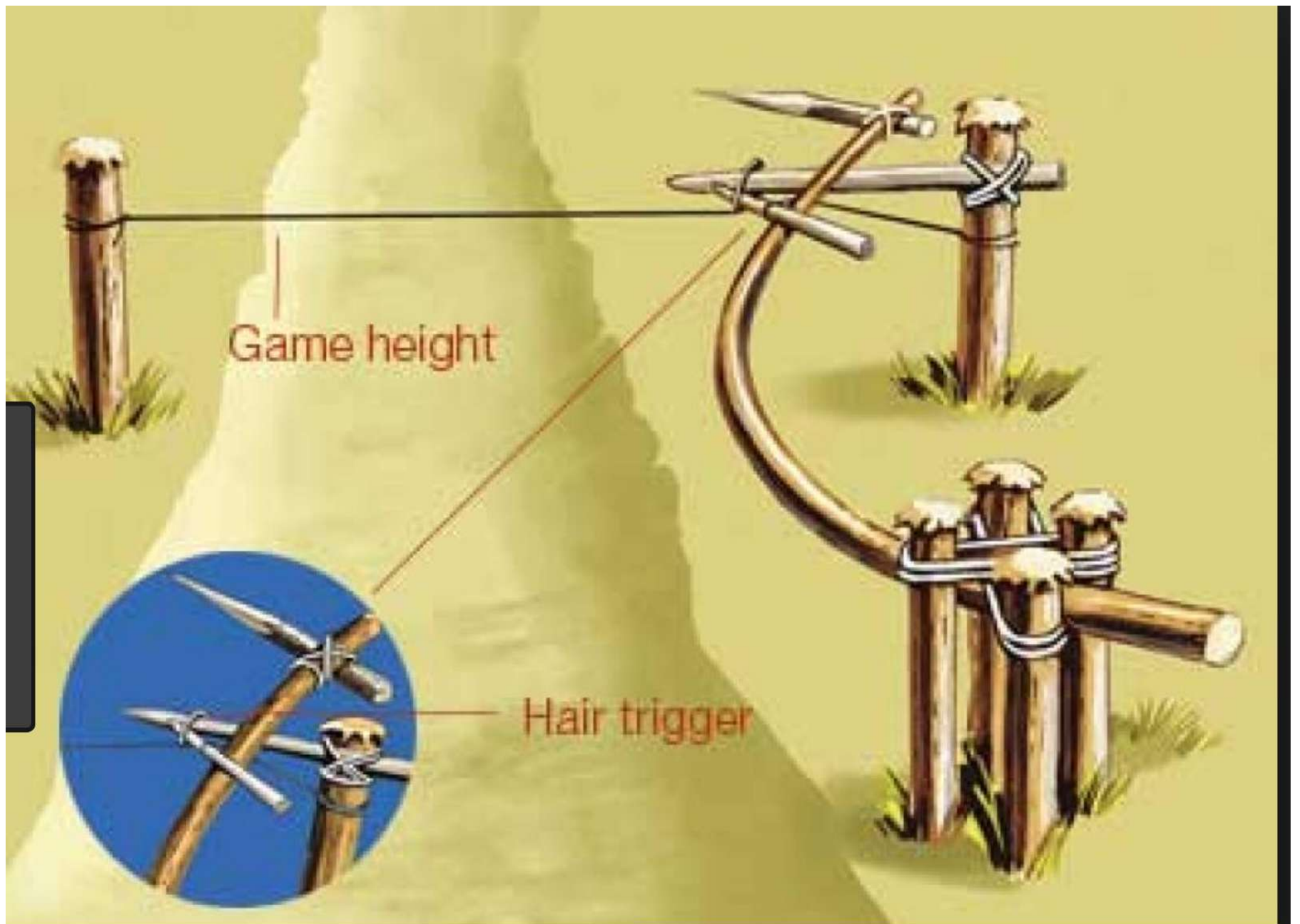














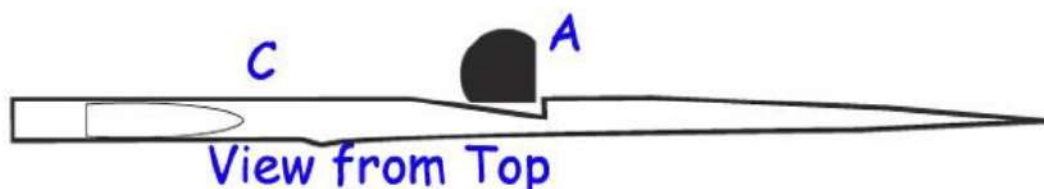
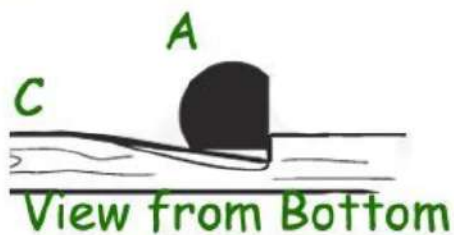
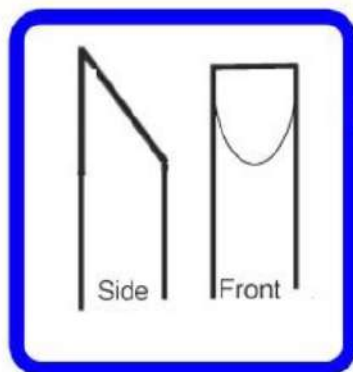
1000 × 563

Paracord Snare Survival traps Episode 1 ...

Building a Figure 4 Deadfall - CleverSurvivalist.com



- A: Fulcrum Stick should be tall enough to hold weight high enough to kill animal and strong enough to hold the weight of the weight.
- B: Weight Stick about same size of Fulcrum
- C: Bait Stick will be longer and will be sharpened on the tip to hold the bait on it.
- D: Deadfall is a log, rock, or other weight or a cage that is meant for live capture. You will obviously make everything sized for the game, you won't be getting Elk with it.
- E: You want to find a flat hard surface to place the bottom of the Fulcrum on.
- G: Visit CleverSurvivalist.com for more awesome posts!





Vane attached with small elastic bands

Curved top to bottom

40lb BS braid

Home made or Fox or ET drift float

Stop knot and bead

Bouyancy aid attached to bottom link of the drift float. Float can be fitted loose with the aid above it

Float stop to prevent float tangling with trace and bait

©2002 hooklinks.co.uk

Use a 24 to 30" wire uptrace to prevent bite off's occuring if bait is taken when above the weight

2 hook trace of 12 to 15" of 20 to 30 lb BS wire

Quick change egg sinker or slotted drilled bullet on plastic tube locked onto the swivel

4 to 6 ounce livebait



















Believe This Fishing? Unique Fish Trapping System | New Technique Of Catching Village Fish



DRIED MUD BLOCK



1:21 / 7:46







OPEN MESH BAG WITH BAIT





2:51 / 7:46







30 minutes later



3:03 / 7:46







AroundMeBD

▶ ⏮ 🔊 1:11 / 11:12

⚙️ HD 📺 🖥️

SUBSCRIBE
FOR
UPDATES







AroundMe3D

SUBSCRIBE
FOR
UPDATES

DANGER!

**SURVIVAL
TRAP**

TWISTED CORDAGE







0:56 / 12:18





5:49 / 12:18





6:27 / 12:18





9:09 / 12:18















Large steel tip



11:27 / 12:18



Distillation Set-up

1

Begin with a round bottom flask. This is one of the most critical pieces of glassware in the assembly, since it will hold the liquid to be distilled. You don't want it to fall and break because you would (1) lose your compound (2) spill a possible hazardous chemical.

Round bottom flasks are part of your drawer equipment. It will be held in place in the set-up with a small three-pronged clamp with holder which is also in your lab drawer. Grab two ring stands from the back shelves. Obtain a ring clamp (in a box on the back shelves) and two ring stands (back shelves). The ring clamp will hold the heat source, either a steam bath or a heating mantle.



Distillation Set-up

2

Place a ring clamp and your three pronged clamp on the ring stand. The ring clamp goes on the bottom and will hold the heat source, either a steam bath or a heating mantle.

Secure the round bottom flask to the ring stand using the three pronged clamp.

The next item to be added is the Y-adaptor, which is in your lab drawer.



Distillation Set-up

3

The Y-adaptor sits on top of the roundbottom flask. Simply place it on top.

The next item to be added, the condensor, will secure the Y-adaptor to the system. You will also need a yellow clip and a versatile clamp. All of these items are in your lab drawer.



Navigation

Distillation Set-up

4

Connect the condensor to the Y-adaptor and secure the connection with a yellow clip. Secure the condensor to the ring stand with a versatile clamp.

The next items you will need from your lab drawer are a vacuum adaptor and a yellow clip.

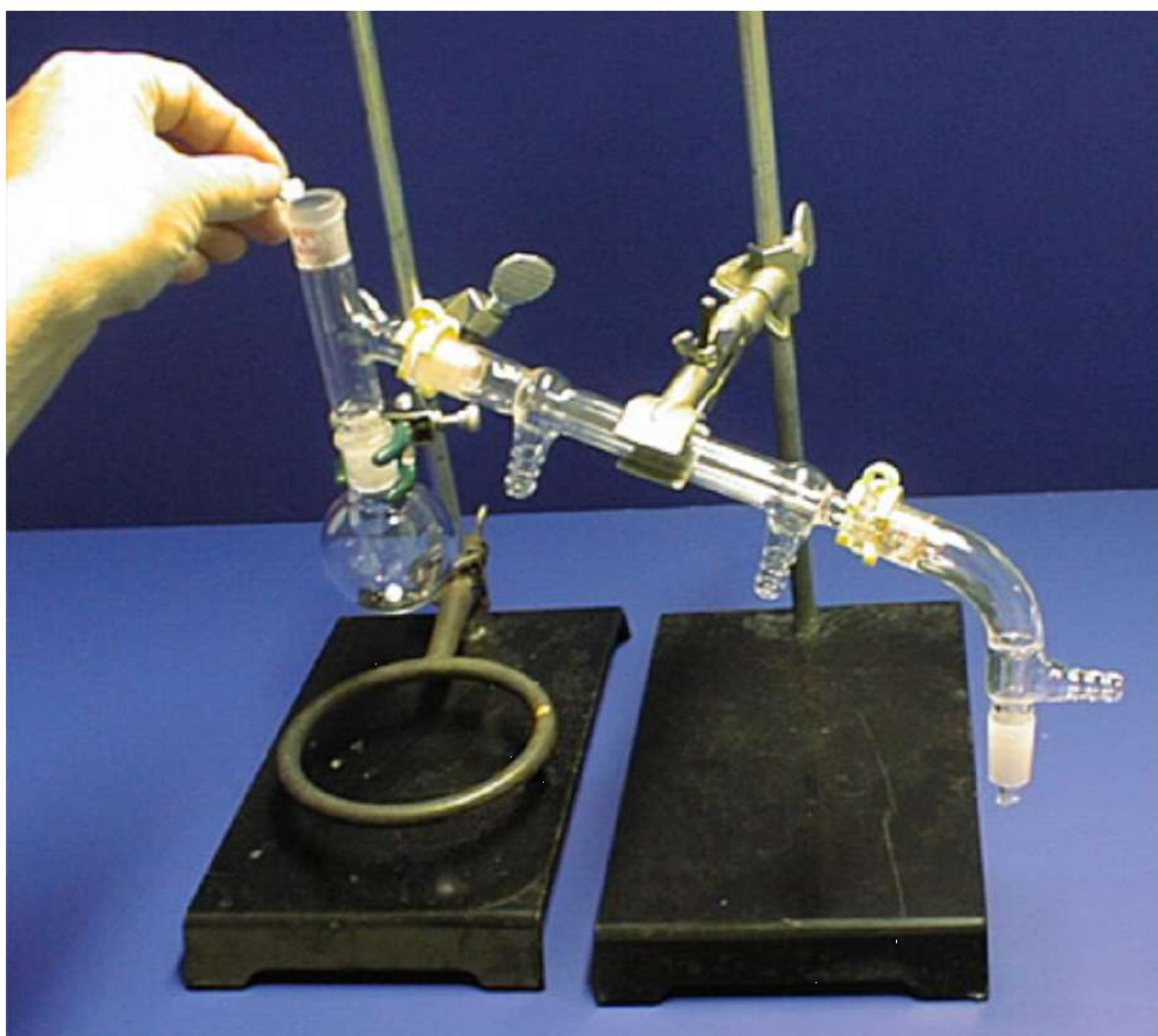


© 2015 by University of Michigan

Distillation Set-up

5

Connect the vacuum adaptor to the condensor and secure the connection with a yellow clip. Add a couple boiling chips to the round bottom flask by dropping them down the Y-adaptor.

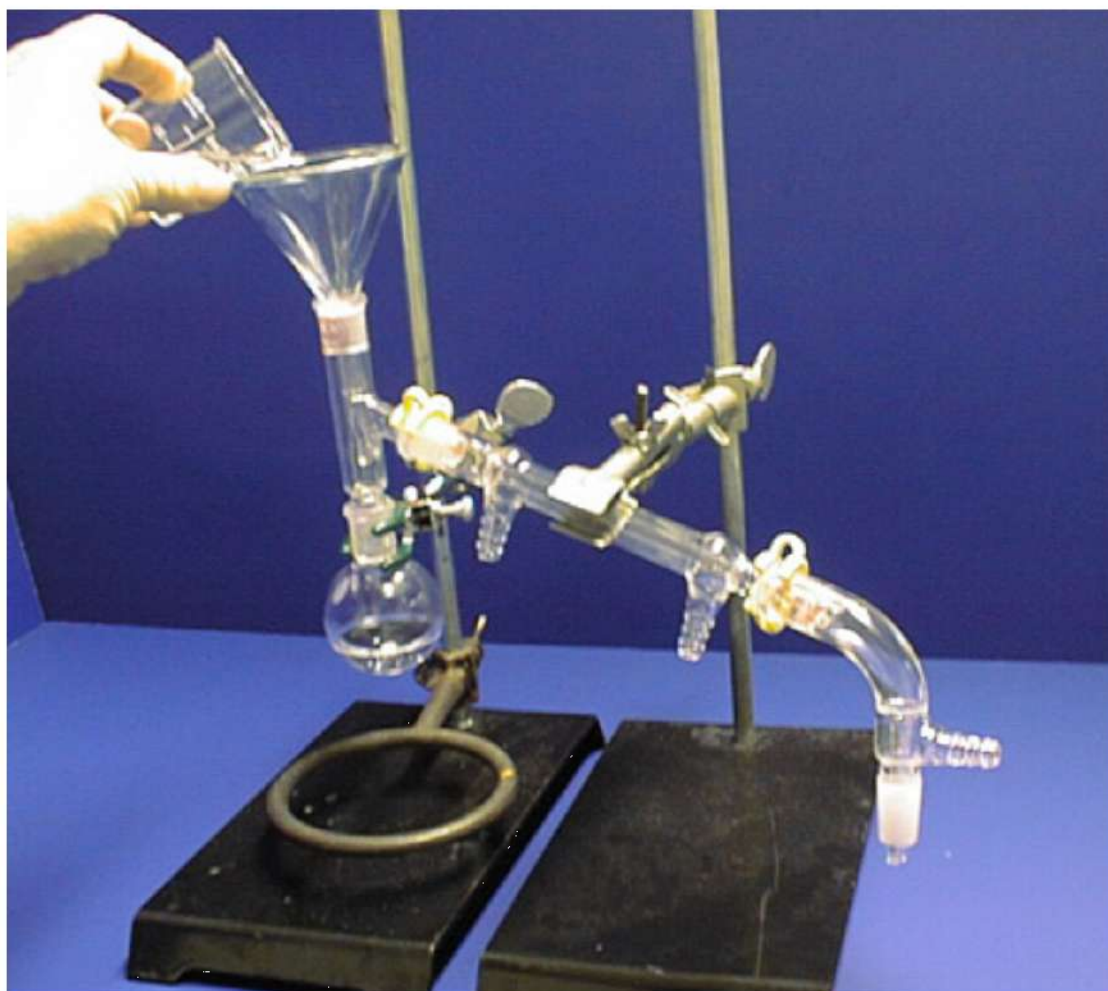


Distillation Set-up

6

Place a stemmed funnel into the top of the Y-adaptor and pour the liquid to be distilled through it so that it goes into the round bottom flask. The flask should be from 1/2 to 2/3 full, no more, no less (see details).

When done, remove the funnel.

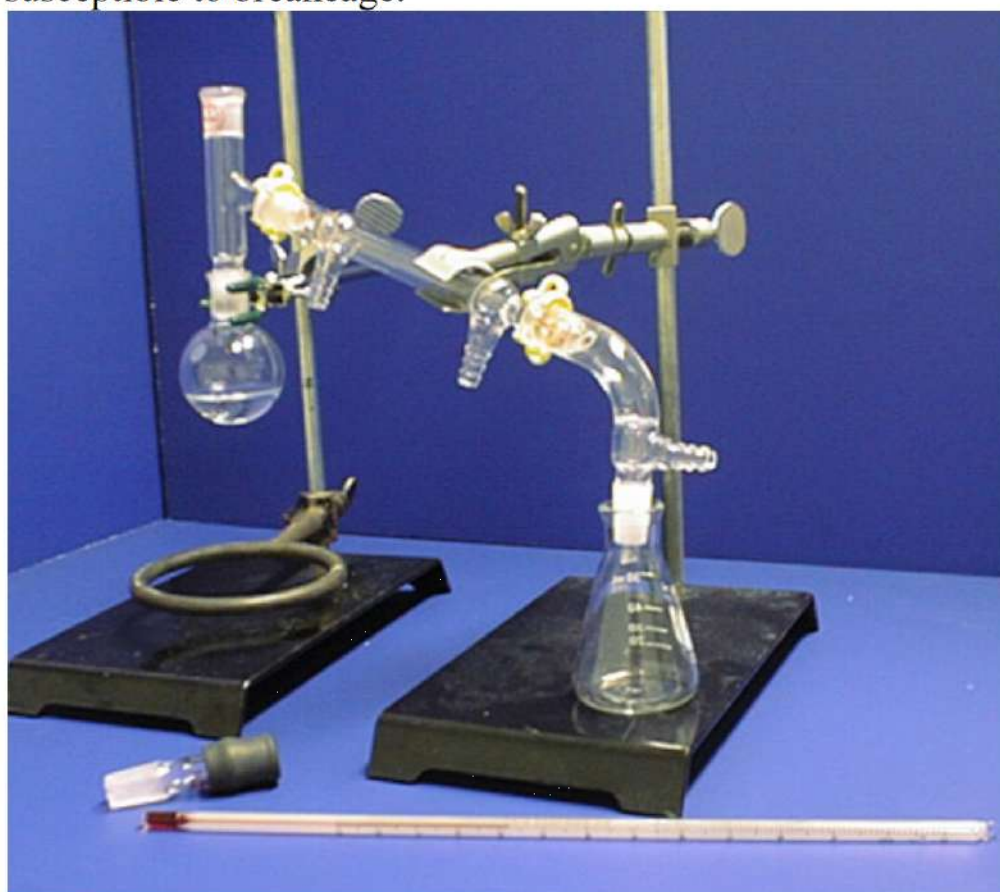


Distillation Set-up

7

This picture is only different from the last in that a flask has been placed under the vacuum adaptor. This is the "receiving flask". A beaker or vial or graduated cylinder could also be used. In a vacuum distillation, a round bottom flask is used as the receiving flask, and it is securely attached with either a clamp or a yellow clip.

The next items to be added are the thermometer adaptor and thermometer. The thermometer is always added last because it is large and susceptible to breakage.



Distillation Set-up

8

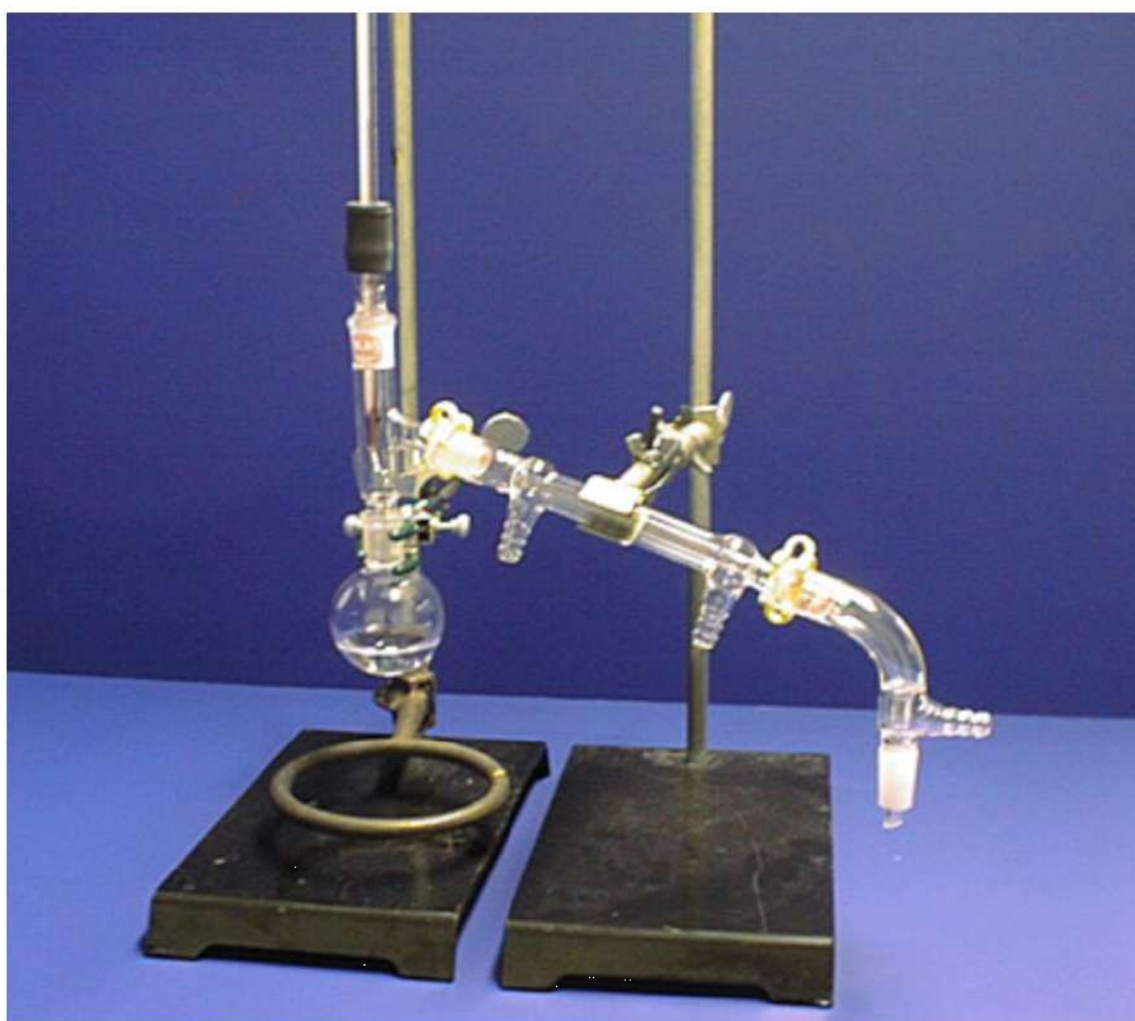
Here is all the glassware properly assembled. The thermometer and thermometer adaptor are connected on top of the Y-adaptor. Go to the following link for a close-up view of the position of the thermometer in the Y-adaptor.

- [thermometer in Y-adaptor](#)

Oops, what's missing? the receiving flask. I purposely removed it in preparation for the addition of the steam bath and tubing. The addition of these items could cause an un-secured flask to fall and break.

Clip the text link below to see the set-up showing the entire length of the thermometer, no other changes. Skip it if you like.

- [full view](#)



Distillation Set-up

9

Look in your drawer or on the bench for your steam bath. Grab 4 lengths of Tygon tubing from either your drawer or the box in the back of the lab.



Distillation Set-up

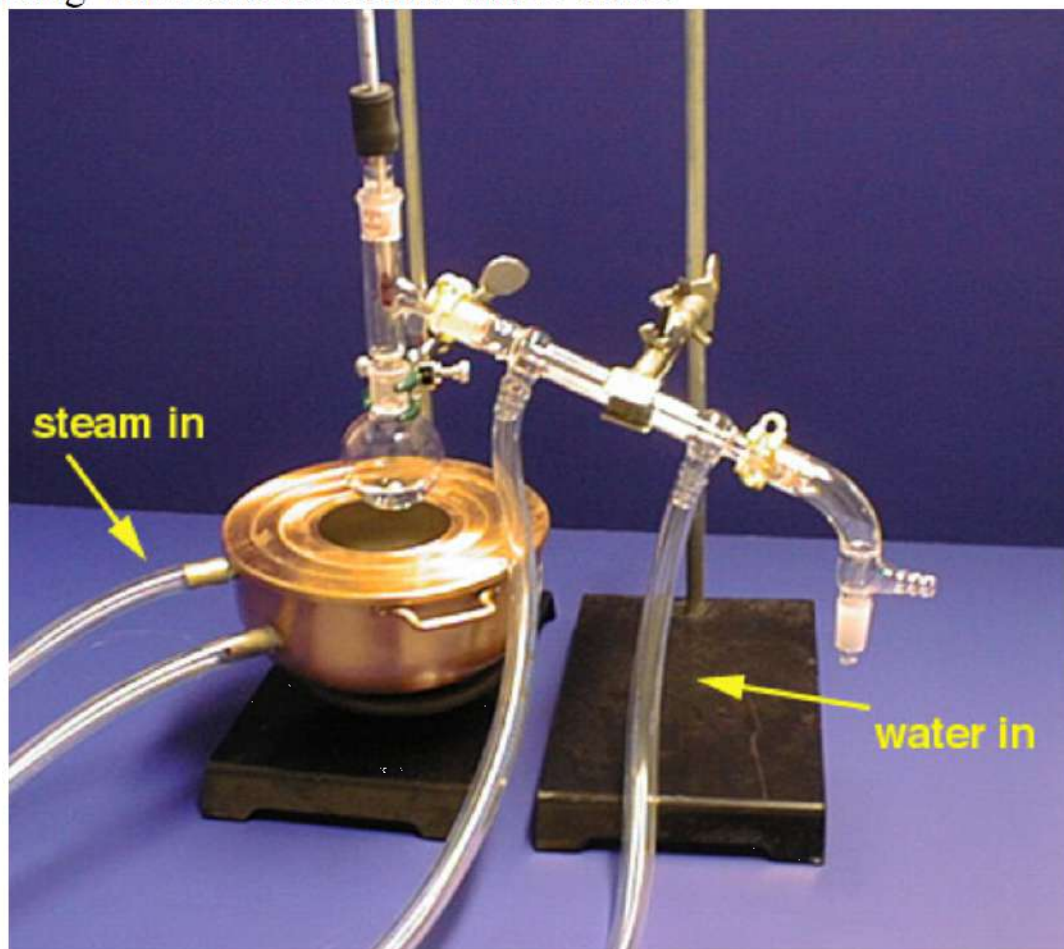
10

Place the steam bath on the ring under the round bottom flask. Adjust the height of the steam bath and/or apparatus as necessary.

Connect two pieces of Tygon tubing to the condenser: one to each connection of the water-jacket of the condensor. The tubing to the lower connection goes to the water source, the upper connection goes to the drain.

Connect two pieces of Tygon tubing to the steam bath: one to the lower and one to the upper connection. The tubing at the upper connection goes to the steam source, the lower one goes to the drain.

Make sure all of the glass and tubing joints are tight before turning on the cooling water and the steam. You're done!

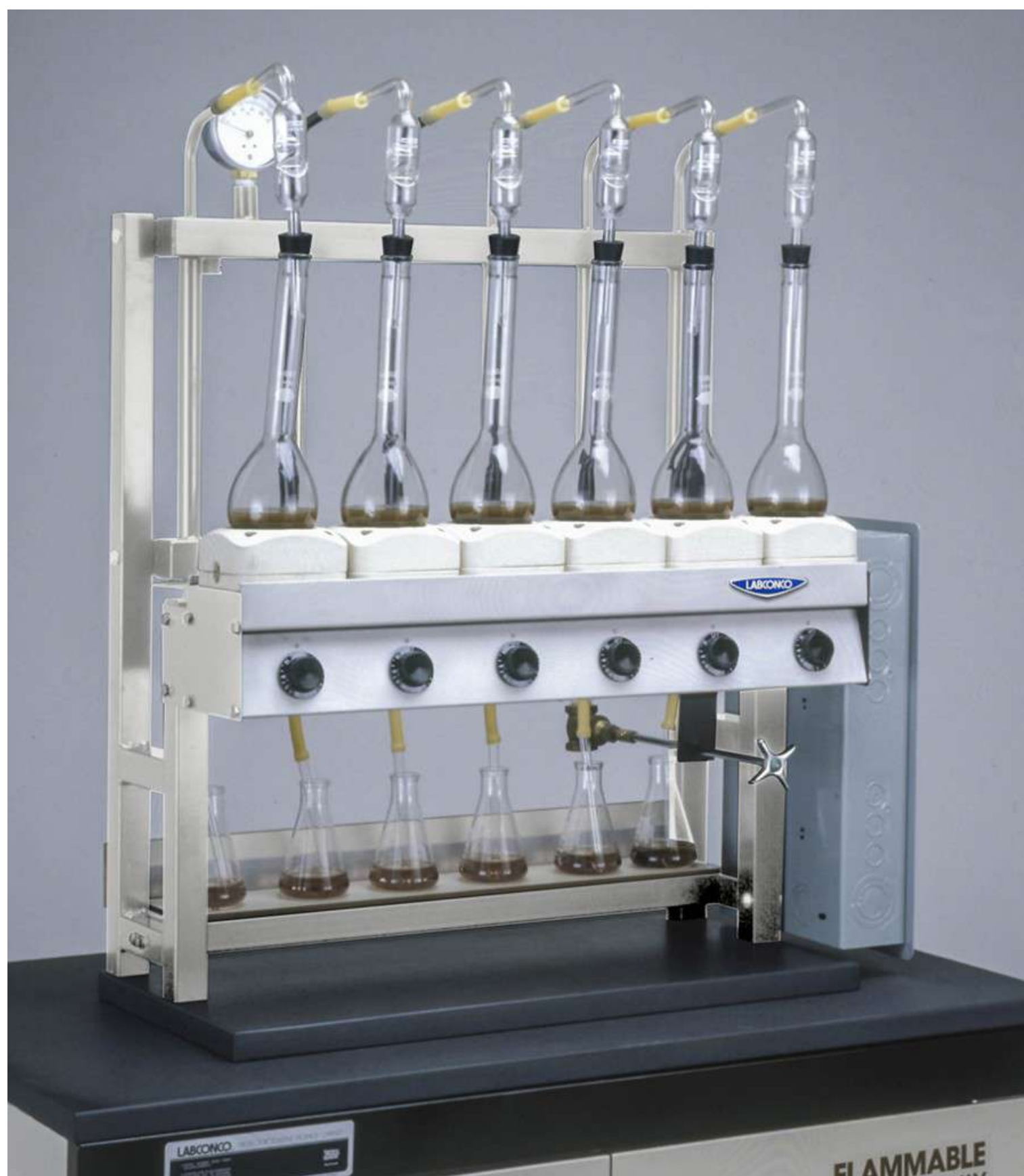


Distillation Set-up

completed!

This is the entire set-up, ready to begin distillation.





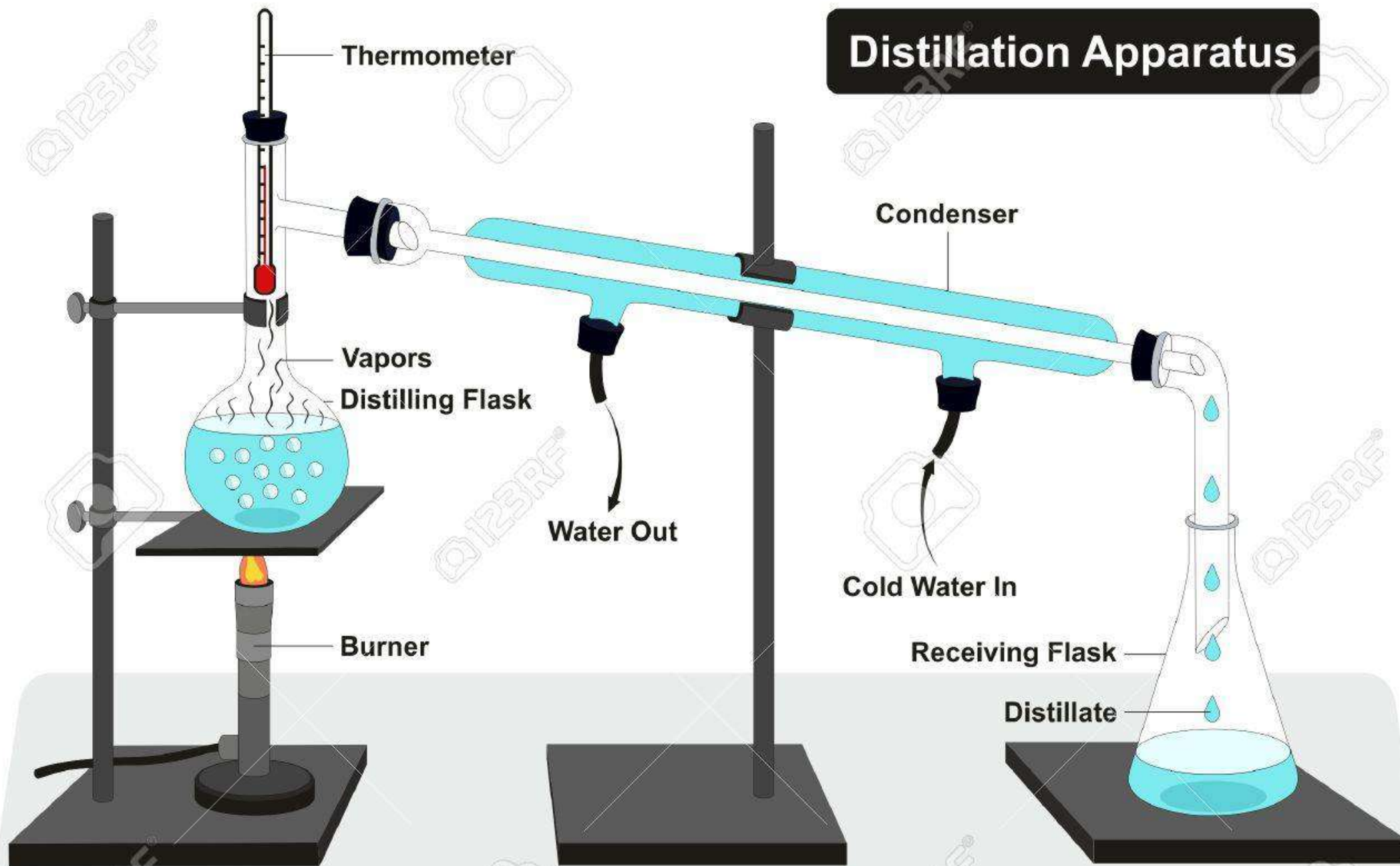


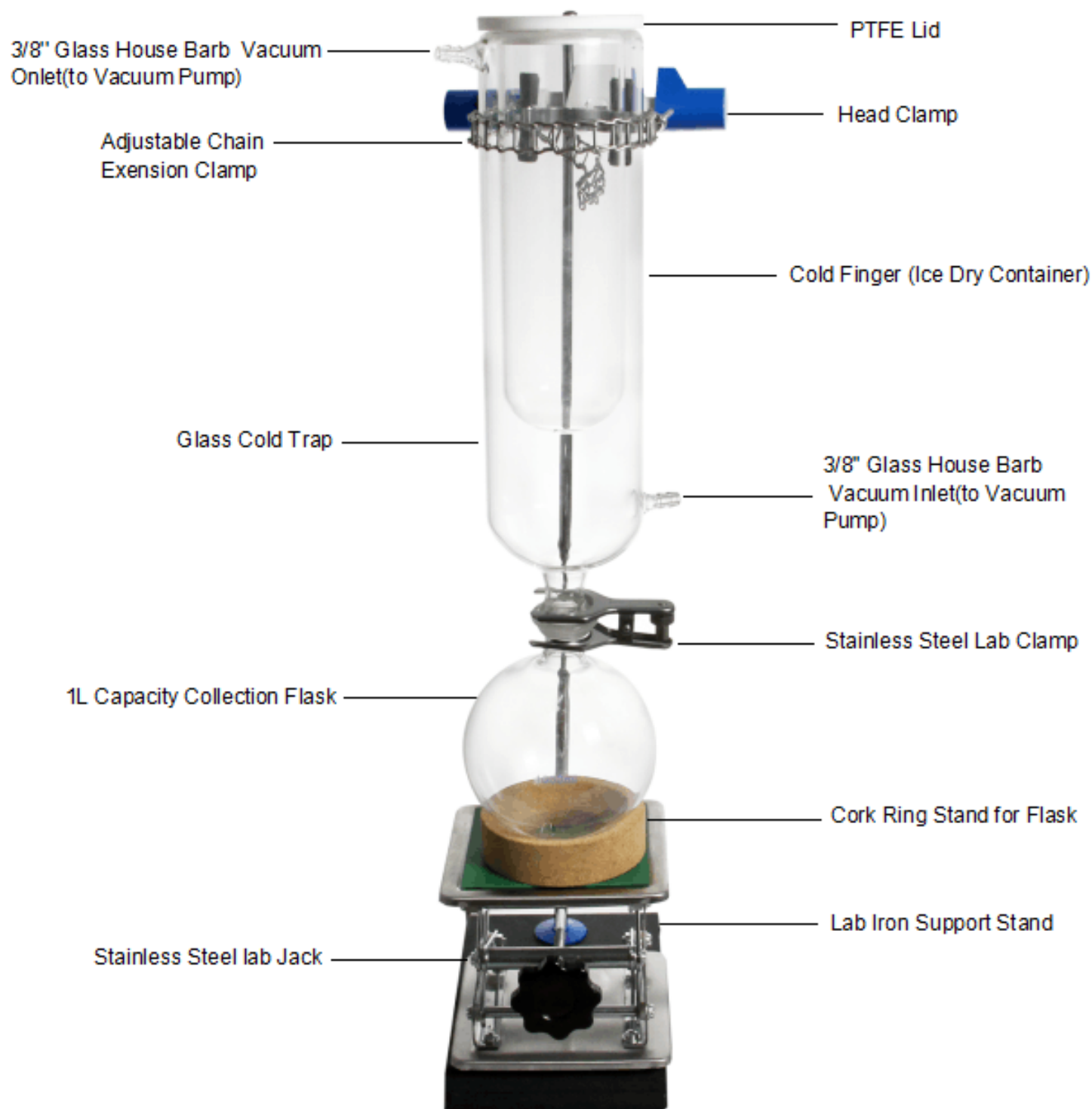
科瑞仪器

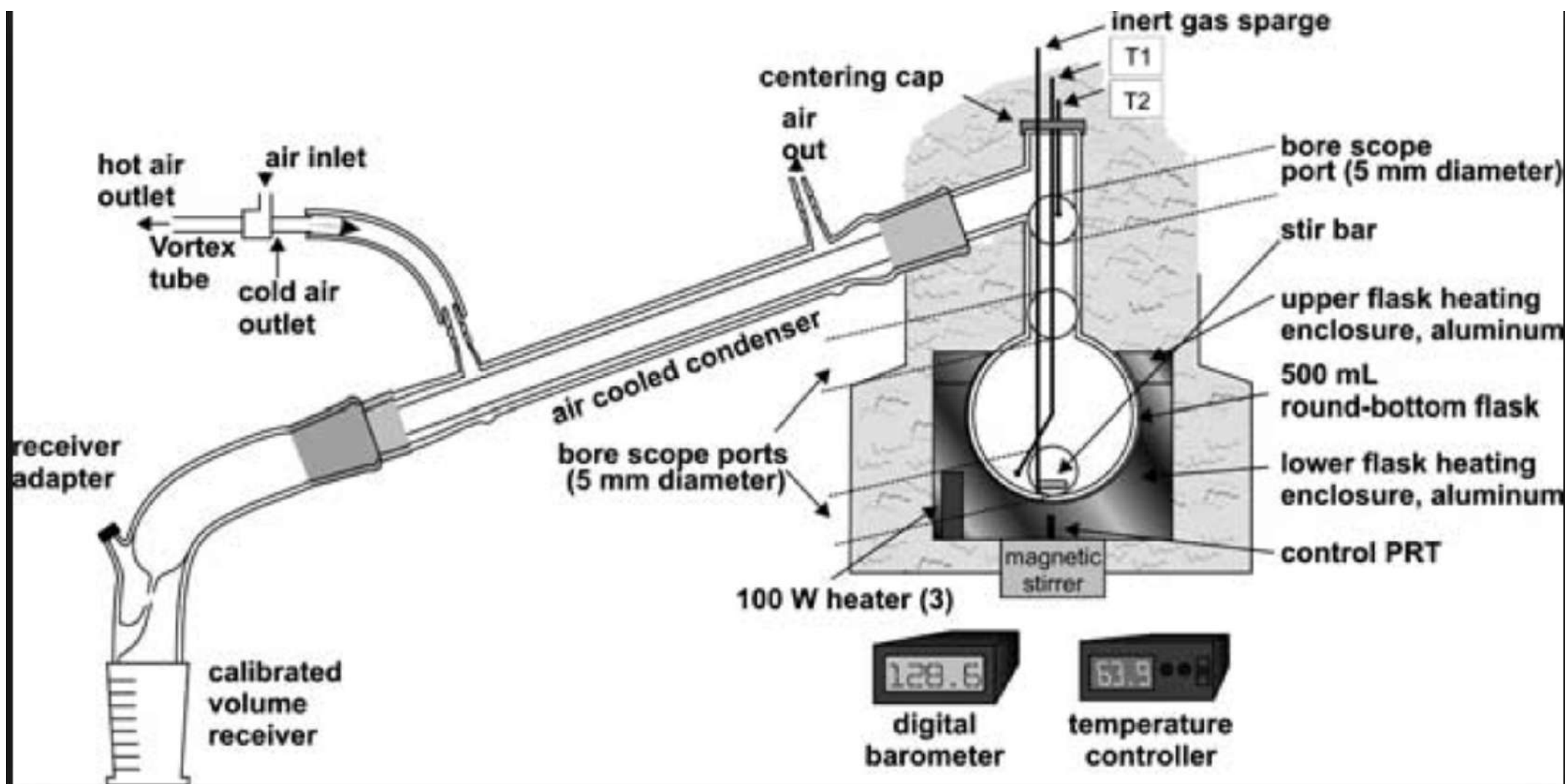
>>> kori instrument



Distillation Apparatus

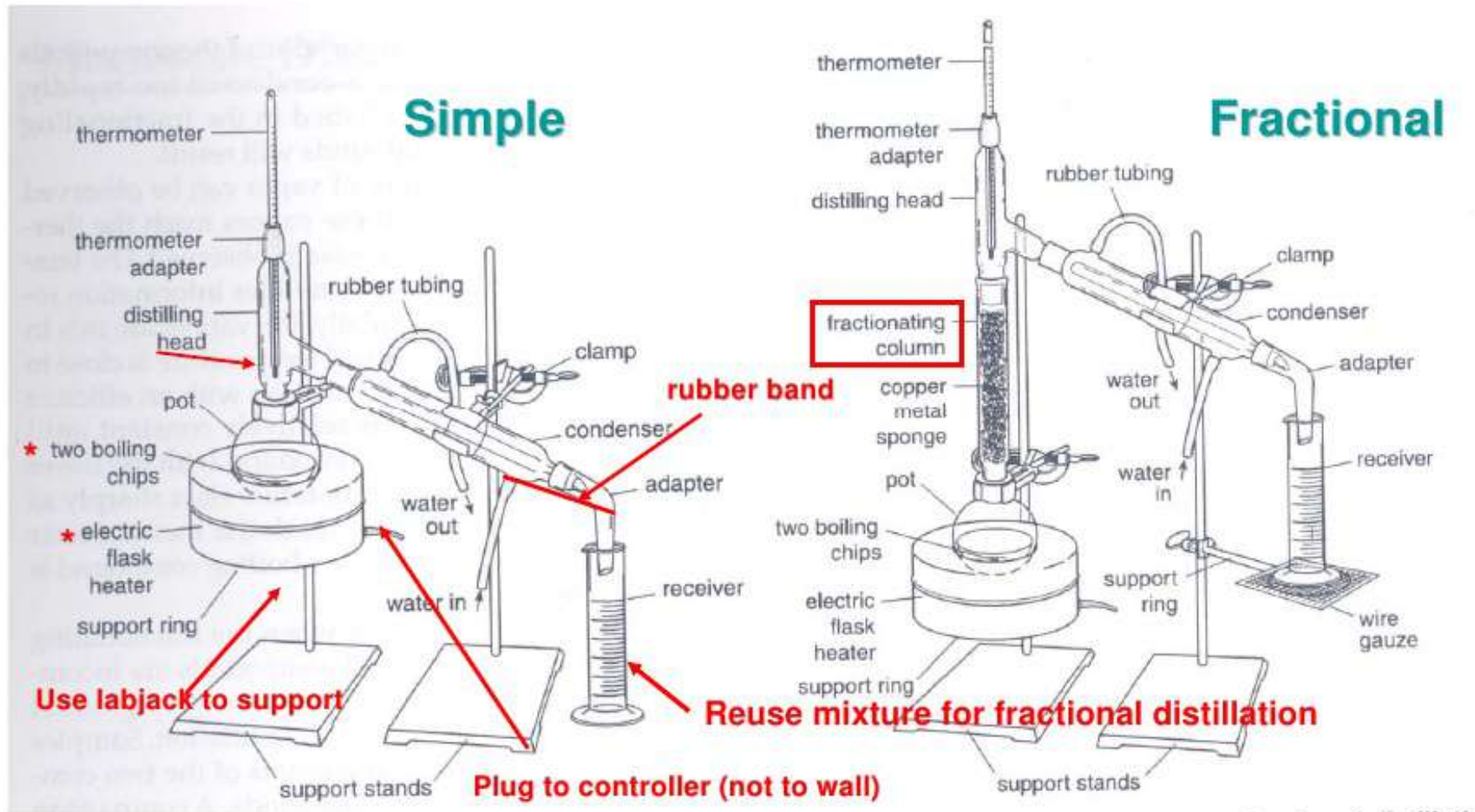


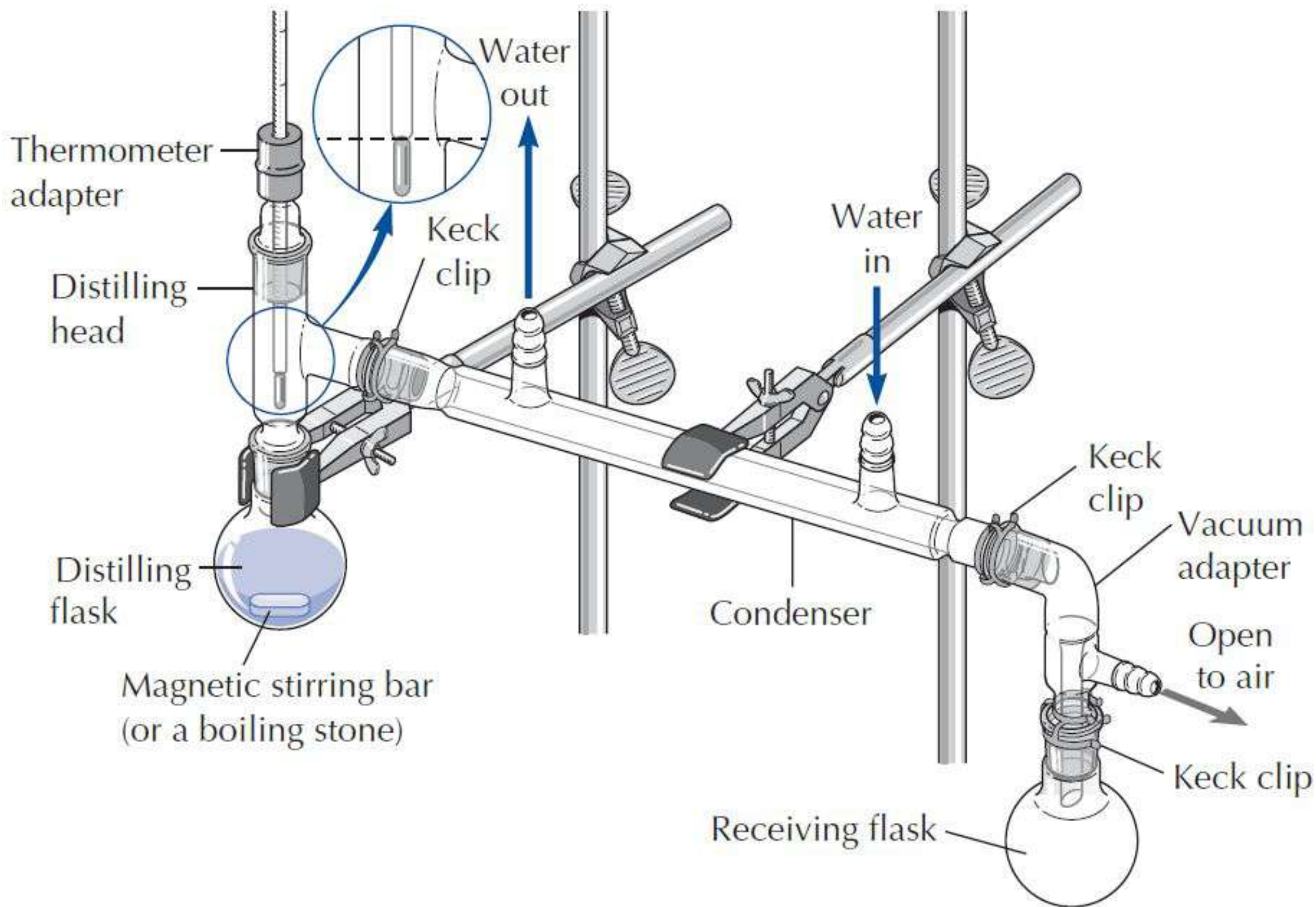


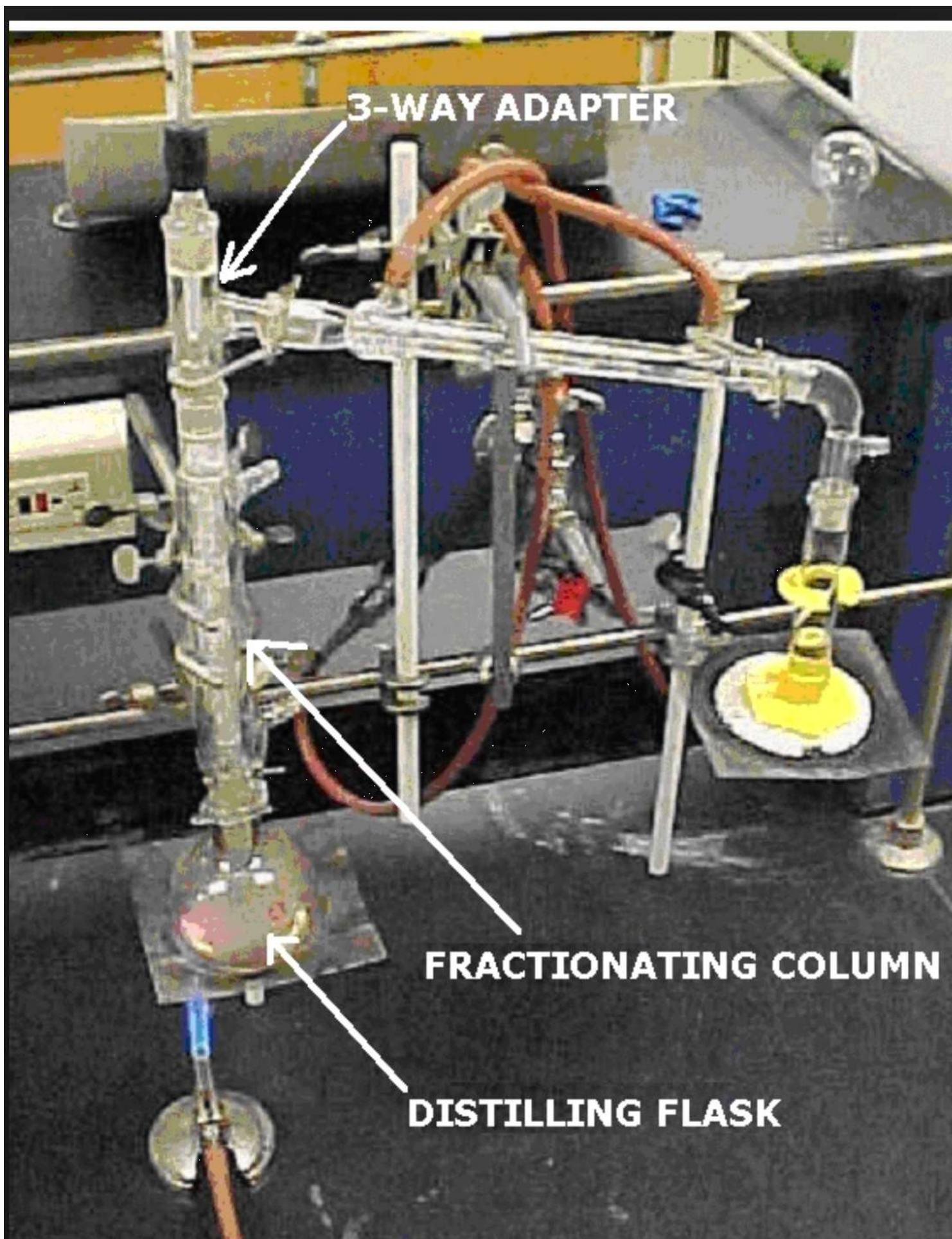


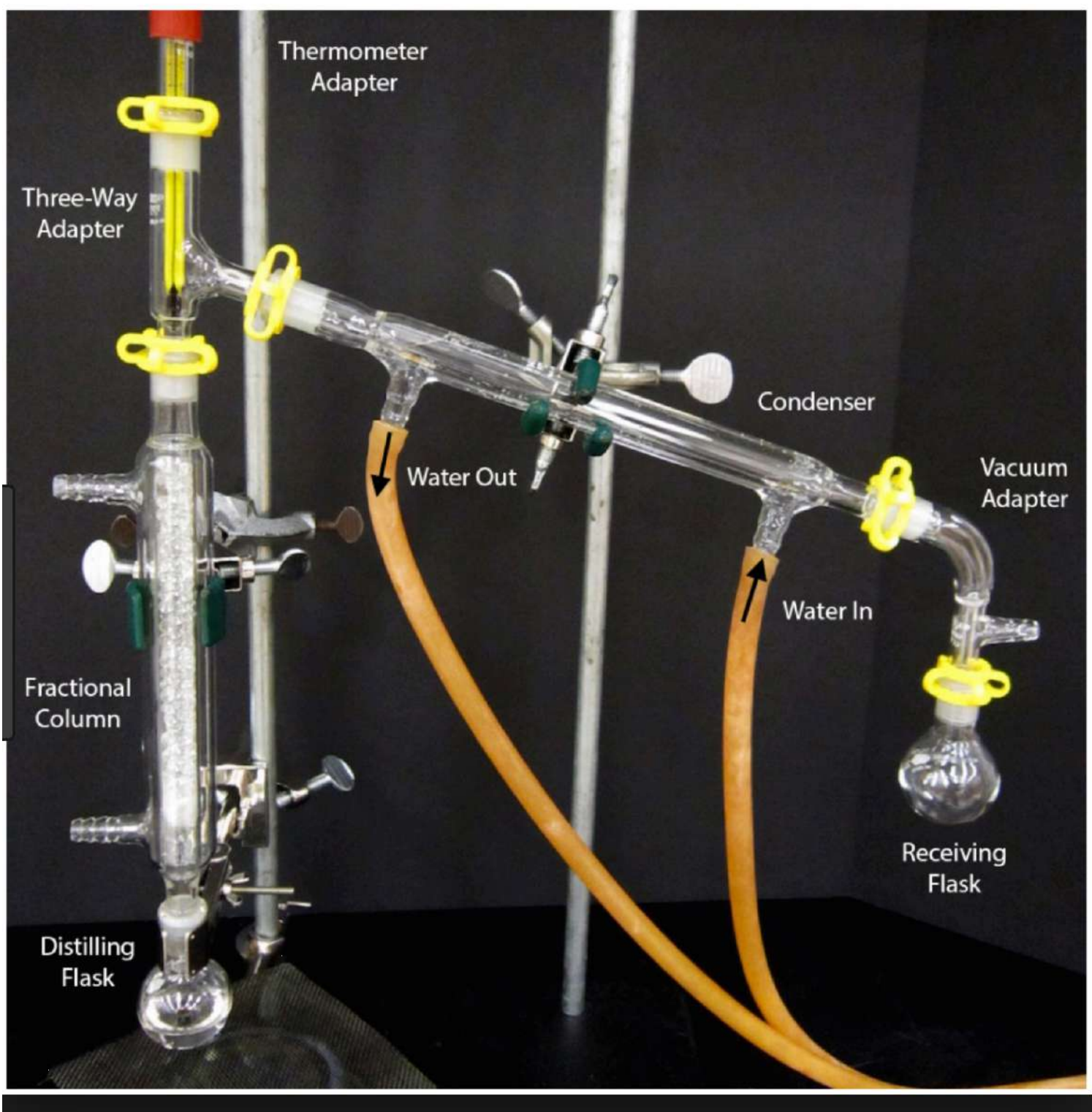


Distillation Setups











Optional Lab Scissors Jack
(Order Part No. NC-13222)

KIT CONTAINS...

Borosilicate Glassware:

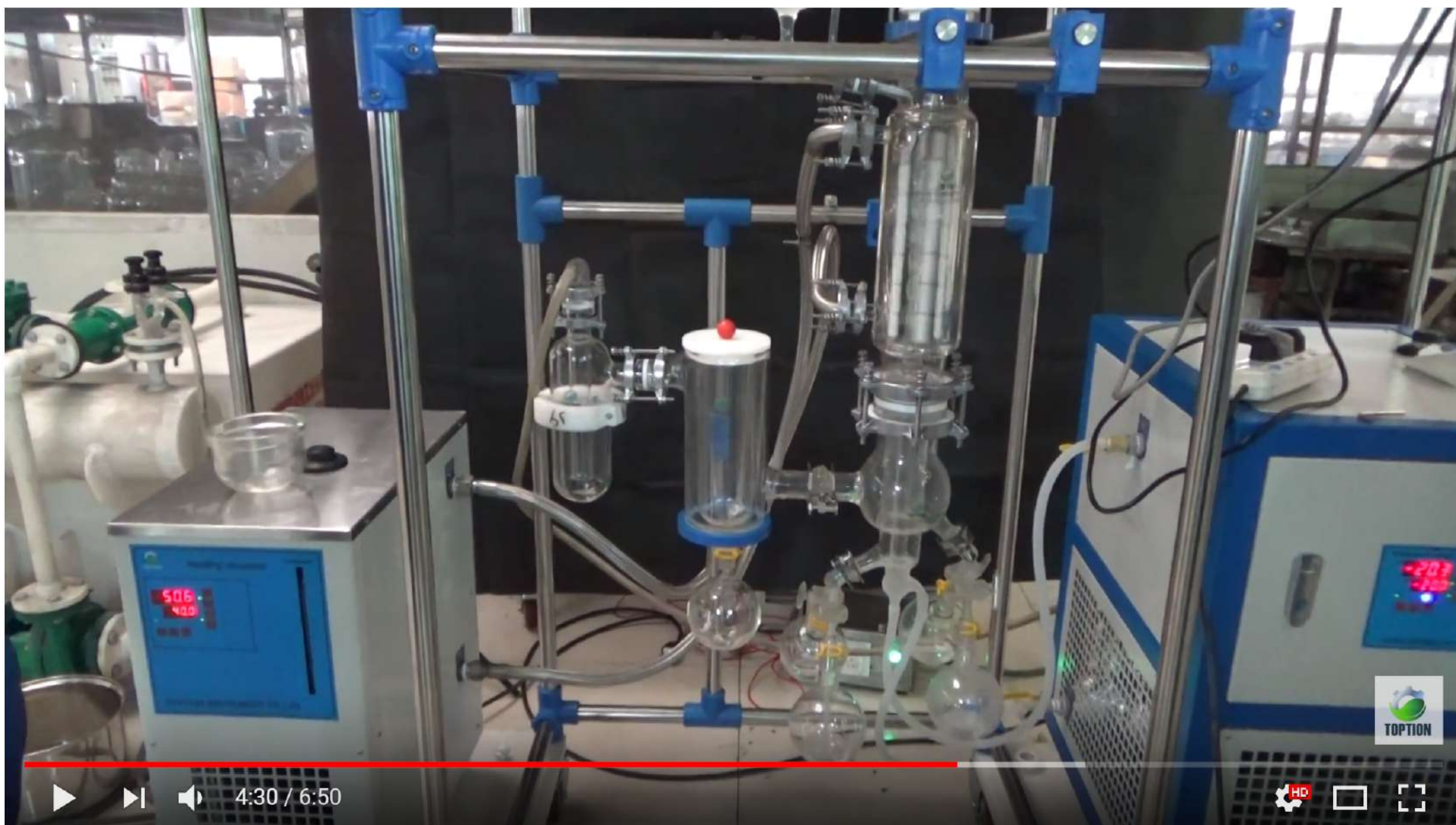
1. Boiling Flask, 1L
2. Biomass Flask, 2L.
3. Distillation Arm.
4. Glass Stopper.
5. Condenser, 300mm.
6. Erlenmeyer Flask, 500mL.

Hardware:

7. Electric Hotplate.
8. Ring Clamp, 6".
9. 3-Finger Clamp.
10. Lab Support Stand.
11. Keck Clamps (2).

Included but not shown...

12. 5 ft. Amber Latex Tubing (2).



How To Install Molecular Distillation Apparatus?



Solvent Vacuum Distillation

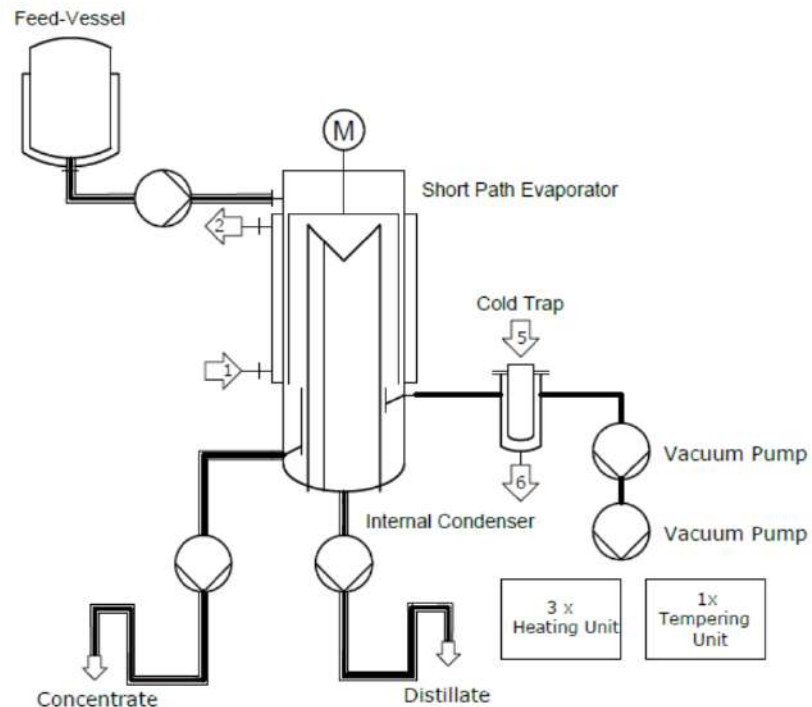


Root Sciences - Short Path Distillation of Cannabis & Hemp (THC/CBD)

Short Path Distillation Plant VKL 70-5

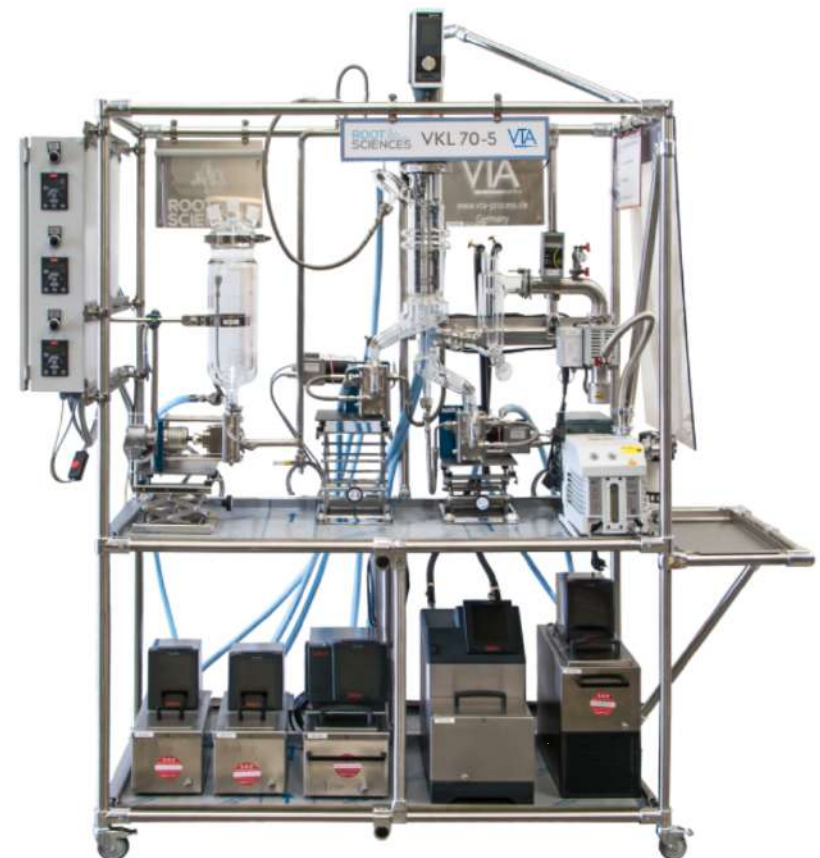
Root Sciences Short Path Distillation apparatus is a short path evaporator with an internal condenser and discharge arms for concentrate and distillate.

With short path distillation, a decrease of boiling temperature is obtained by reducing the operating pressure. It is a continuous process with very short residence time.



Advantages of Our System

- Continuous feed
- Short residence time (less than 10 seconds)
- High evaporation rates
- Low processing temperatures
- Low vacuum (down to 0.001 mbar)
- Low fouling on evaporator wall
- Compact design
- Automated System
- Easy to use
- **Separates cannabis extracts into high concentrations of clear distillate.**



Cannabis Crude Oil Extraction, Ethanol Recovery and Decarboxylation
Coming Soon from the Global Leaders in Bio-Extraction Technology



Root Sciences & DEVEX

Root Sciences has led the industry in post-processing technology through its exclusive global relationship with German manufacturer, VTA.

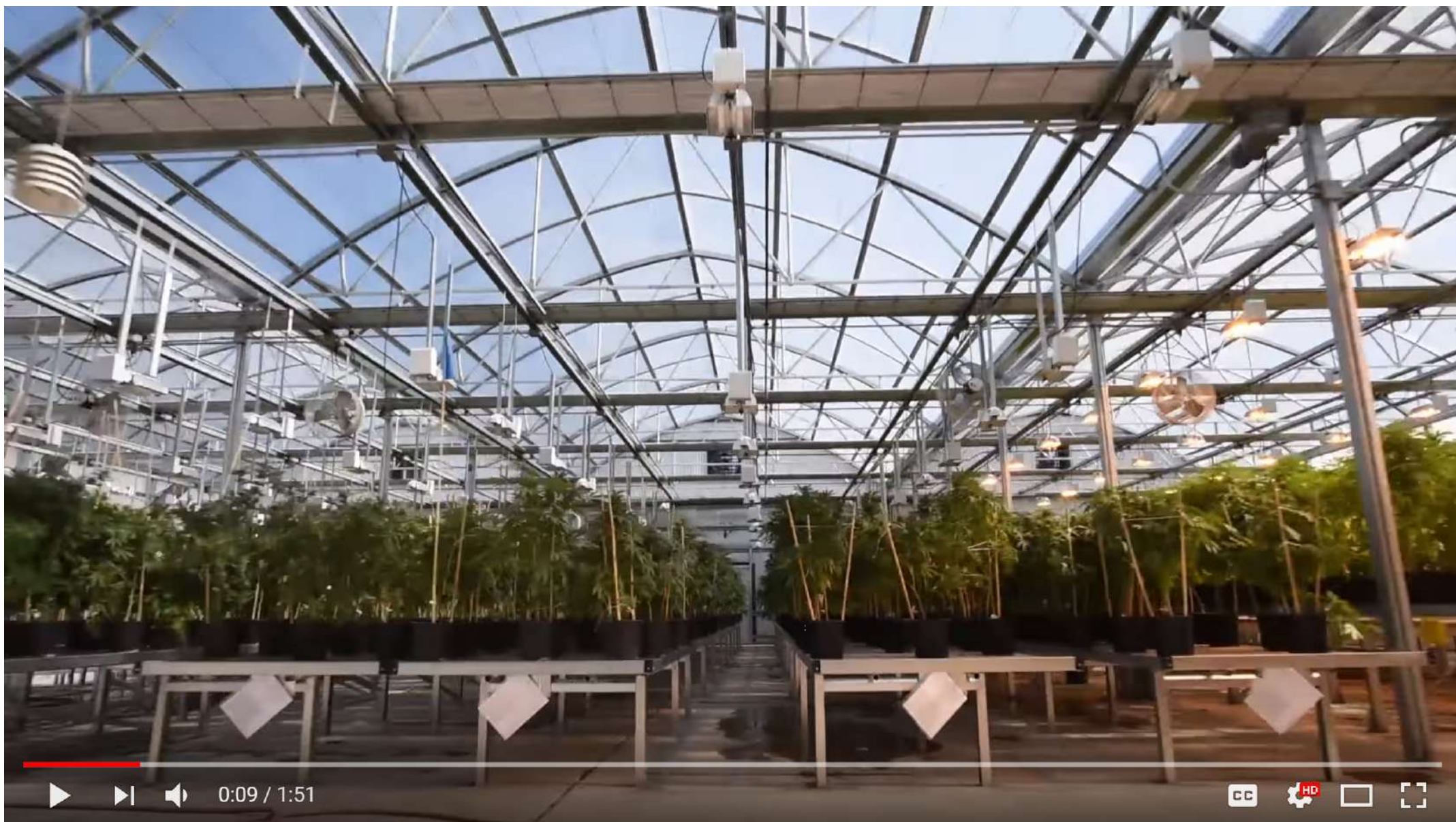
Root Sciences is proud to announce our partnership with DEVEX, the global leader in Cryo Ethanol Extraction Equipment.

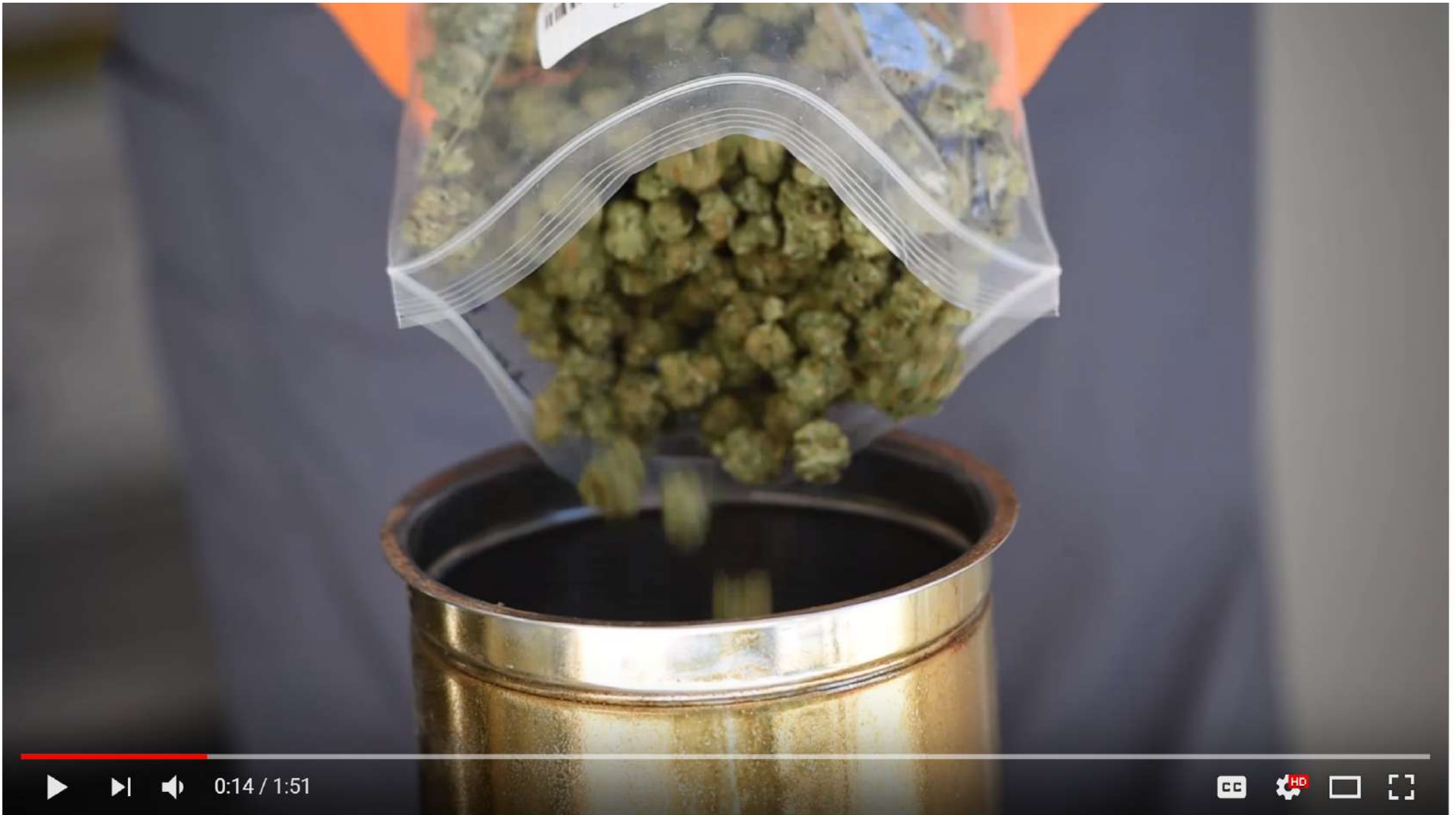
Coming soon, Root Sciences and DEVEX will pave the way for cryo ethanol as a sustainable solution for pre-distillation crude cannabis oil.



Preliminary Key Features

- All in 1 Cryo-Extraction, solvent recovery, and Decarboxylation system
- Throughput: 400 lbs per 8-hour day
- Solvent Recovery Rate: 350L / hour and up
- Solvent Residual: Low residual solvent left in spent biomass by means of steam stripping
- Extraction temperature: -40 to -60 Degrees C
- No Need to De-wax





LIQUID BUTTANE / PROPANE MIX

▶ ▶▶ 🔊 0:20 / 1:51

CC ⚙️ HD 📺 🗨️



5 DIFFERENT TEMPERATURE ZONES



0:50 / 1:51



EVAPORATION
CHAMBER

ROOT
SCIENCES

VTA
Verfahrenstechnik
Anlagen GmbH &
GERMANY
www.vta-process.com

N
LAD



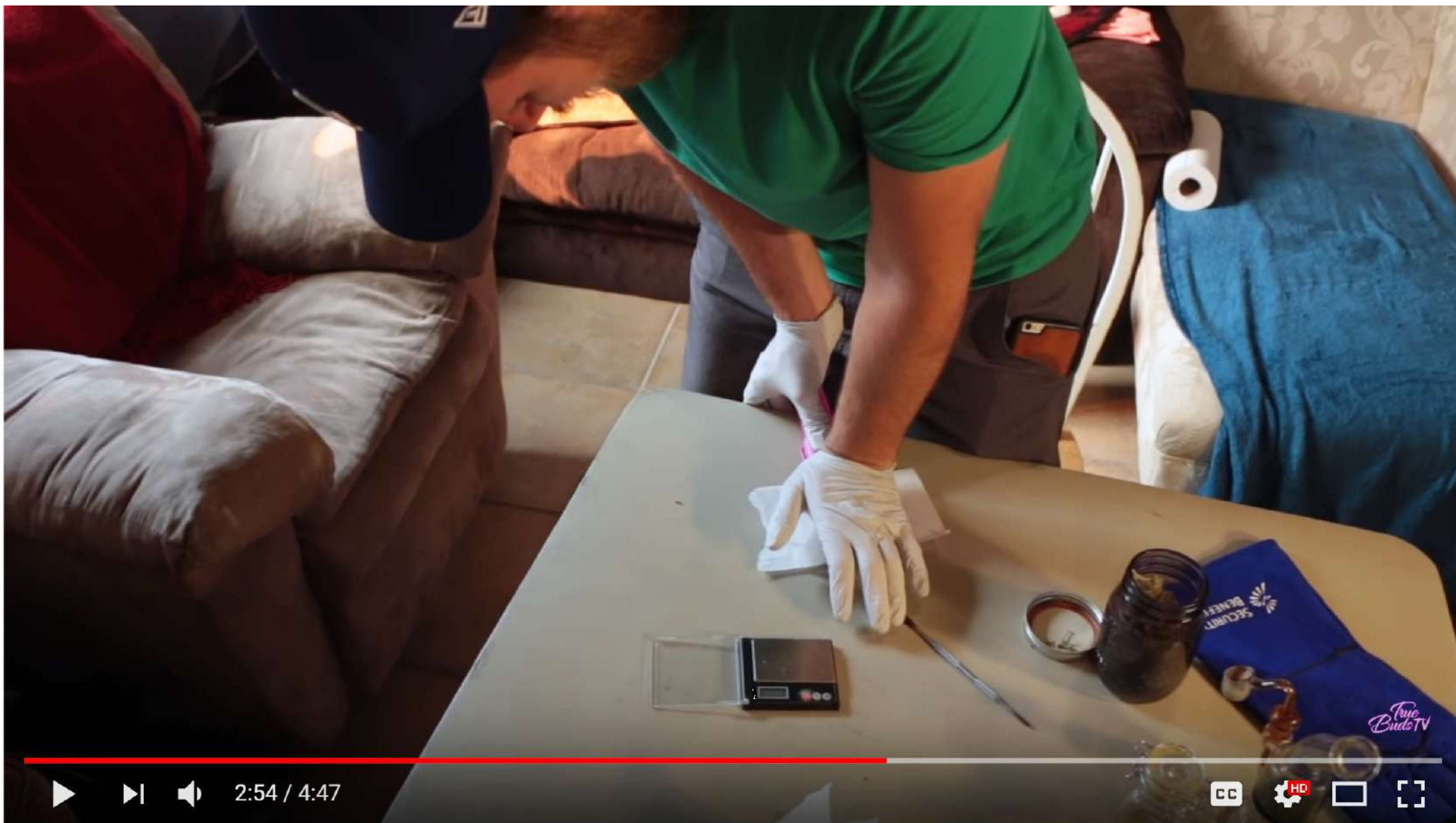
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LOWEST TEMPERATURE

This is how I press rosin



MANUAL ROSIN PRESS



SPONSORED

Rosin Press Manual Personal Use Dual Heat Plates 2"x3" Includes Startup Kit

Brand New

\$209.00

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Dulytek DM800 Personal Rosin Press - Dual Heat Plates - Solventless Extraction

Digital Control & Timer + Free Rosin Press Starter Kit!

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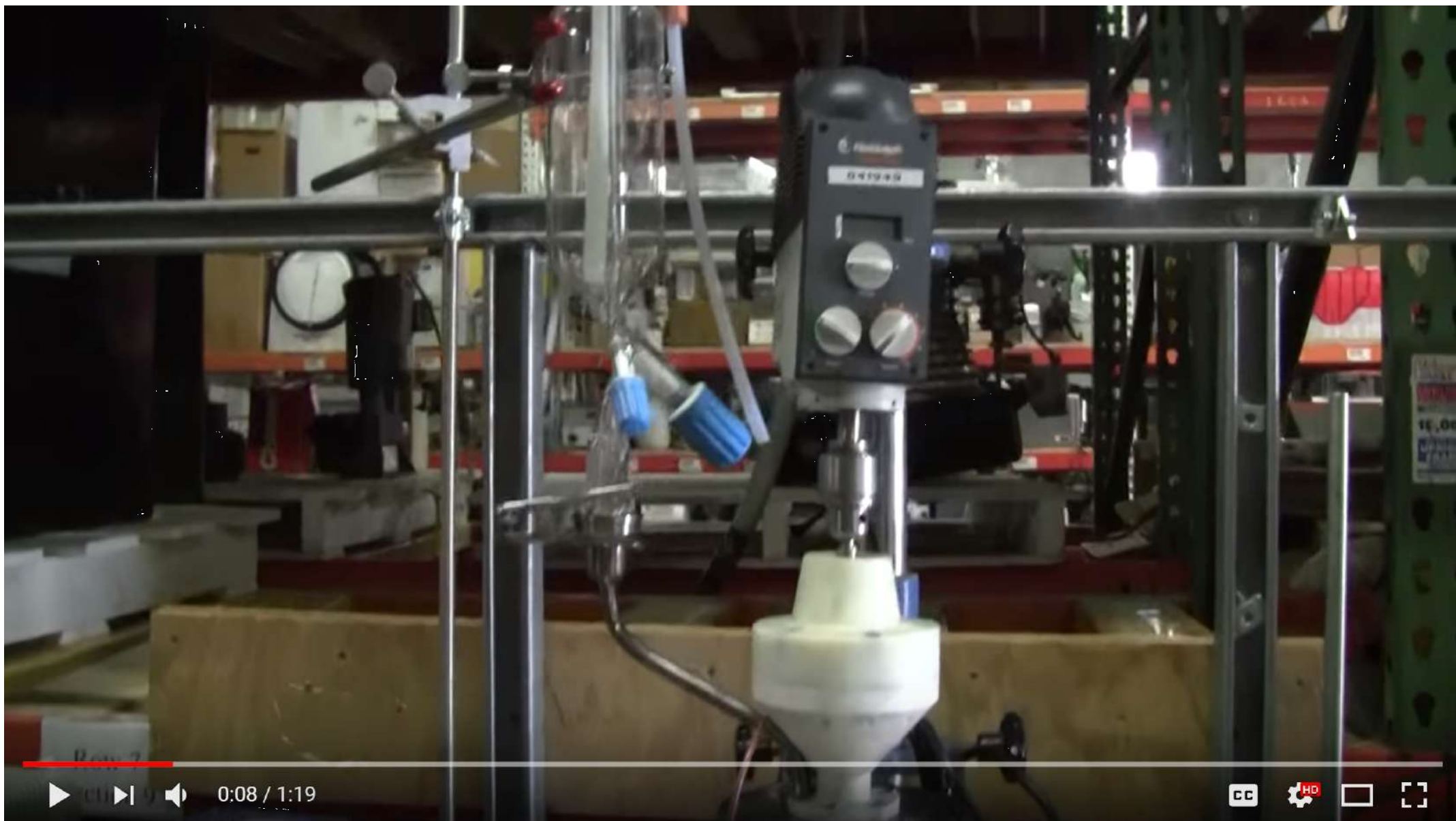
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14 Watching

FAST 'N FREE

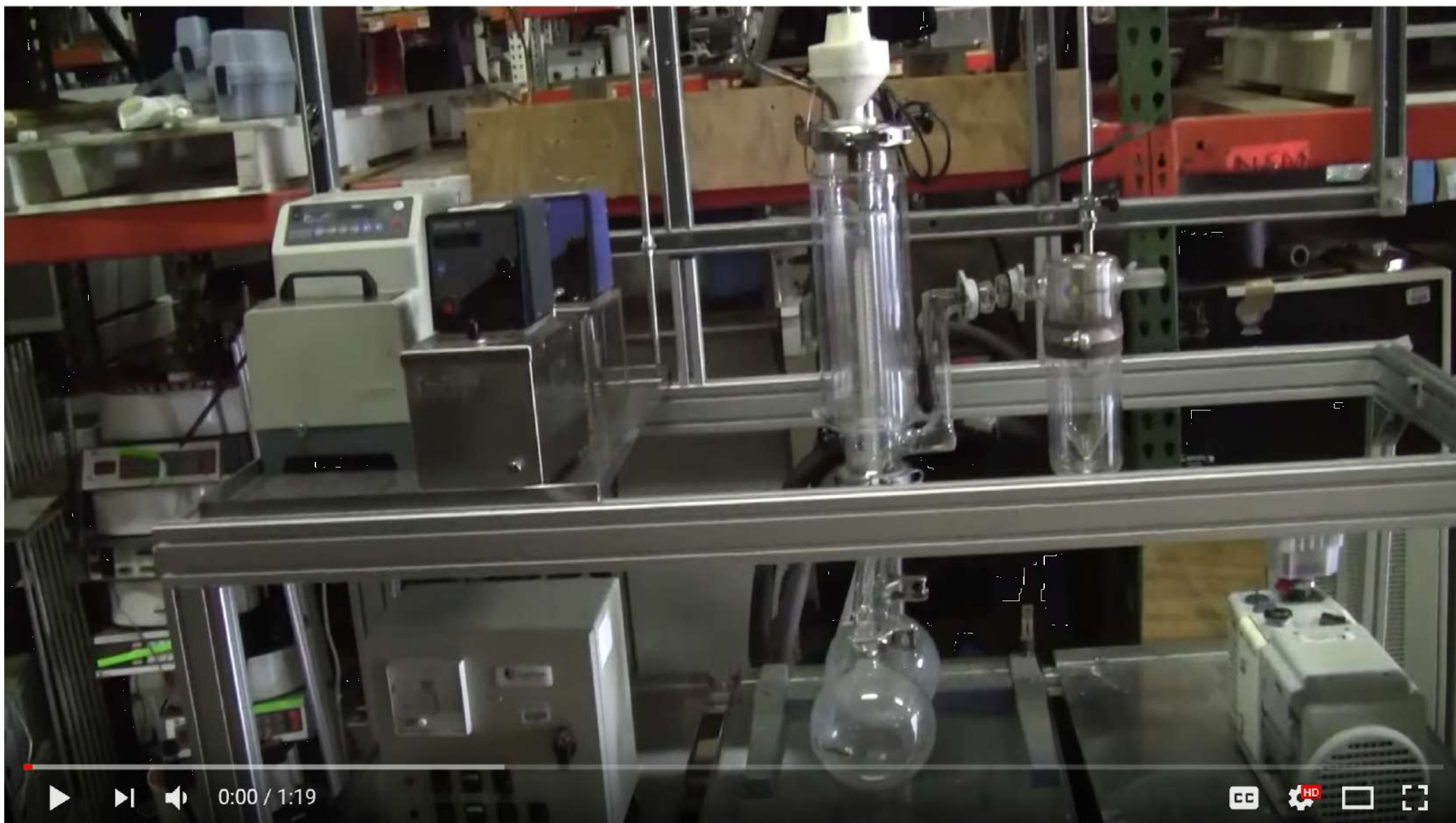
Guaranteed by **Tue, Feb. 12**

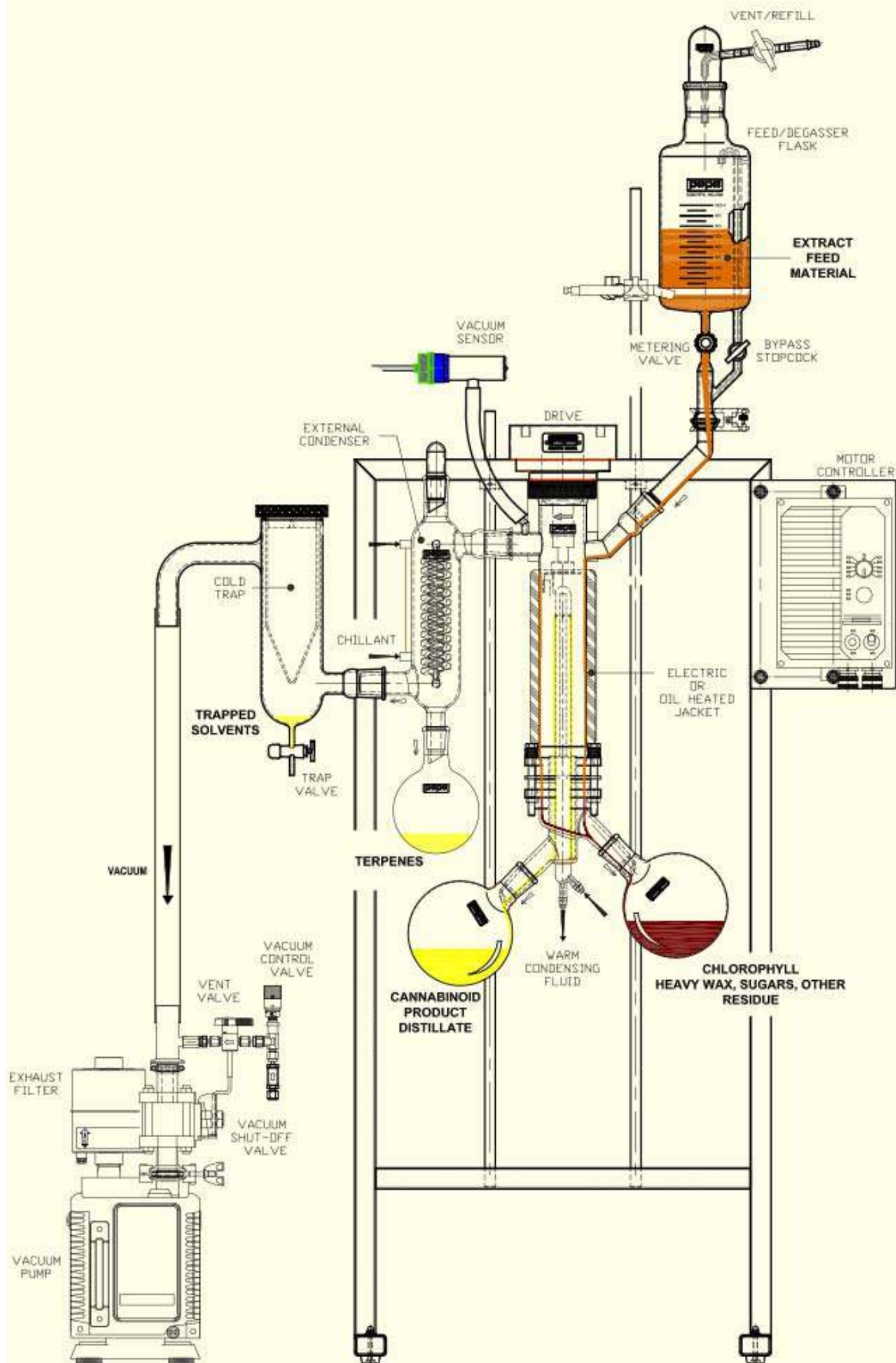




[#Thinfilmevaporators](#) [#WipeEvaporatorsforsale](#) [#UsedEvaporatorsforsale](#)

Thin Film Wipe Film Short Path Distillation much like a POPE unit

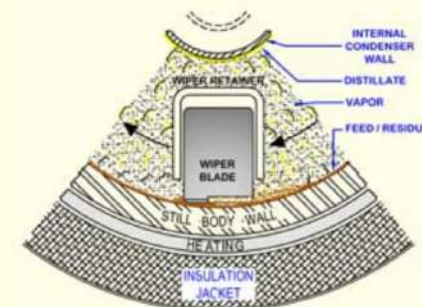




Feed material is delivered from a feed flask into a cylindrical evaporation section, having heating, on the outside, (either electric resistance or circulating hot fluid jacket type), and a diagonally slotted wiper mechanism forcing liquid around and downward in a thin film on the inside. In the center of the body is a closely positioned internal condenser, providing a short path for vapor molecules traveling from the heated surface to the condenser surface. For cannabinoids, the internal condenser fluid must be kept elevated (~70°C) to prevent high viscosity or freeze up of THC, CBD and related components. During the journey downward, lighter (lower boiling point) fractions of the liquid begin to vaporize, move to the internal condenser and condense, falling down as a liquid into a well that captures and separates the distilled liquid (cannabinoid) which flows into a receiver flask. Heavier residue material (Chlorophyll, salts, sugars, heavy wax fractions) does not evaporate and instead travels the length of the still body and flows into a different receiver flask. Because of the optimized Pope design, this all happens within a number of seconds, and under vacuum-lowered temperatures, thus minimizing any possibility of product degradation.

While Cannabinoids are caught and collected by the internal condenser, a different, external condenser, maintained at a chilled temperature, can capture terpenes (which are lighter than cannabinoids). The isolated terpenes are then collected in another, separate receiver flask. Depending on the composition of the feed material and the goals of the operator, some quantities of different terpenes are obtainable which can be very useful for various product formulations. Any remaining vapors which escape both the internal and external condensers and which may contain small amounts of solvents, water or lighter terpene components, are collected in a cold trap maintained at an ultra-low temperature. The trap serves the purpose of maintaining lowered vacuum levels in the still system and protecting the vacuum pump from contamination from the light vapors.

It is important to maintain a steady feed rate, body temperature and vacuum level. In the standard glass molecular still systems, feed rate and vacuum are maintained manually. Pope also offers positive displacement feed pumps, automatic flow rate controllers, automatic vacuum controllers and other advanced features including product discharge pumps, multiple in-series staged still unit skid mounted systems and computer/PLC control. As clients' product production requirements increase, Pope can assist with technology consistent throughout the product line, allowing straightforward process equipment scale up. Equipment for processing 24/7 at more than 200 kg/hr is offered, well more than sufficient for any cannabinoid application!



Thin films are created in Pope Wiped-Film Stills for a variety of reasons:

1. Turbulence and micromixing created by a rapidly moving diagonally slotted blade greatly assists in heat transmission, thereby lowering the temperature required on the inside evaporator wall for a given system pressure.
2. A maximum resulting surface area per unit volume of flow is generated, facilitating rapid, efficient evaporation.
3. The liquid exposure time to the elevated wall temperature can be controlled and also completed within a matter of seconds. This minimizes product degradation of heat sensitive materials by controlling the wiper assembly speed.
4. Pope diagonally slotted wiper blades promote plug flow with little back mixing and direct motion both circumferentially and downward. This minimizes dwell time distribution, ensuring that material flowing through the system has a uniform exposure to process conditions.

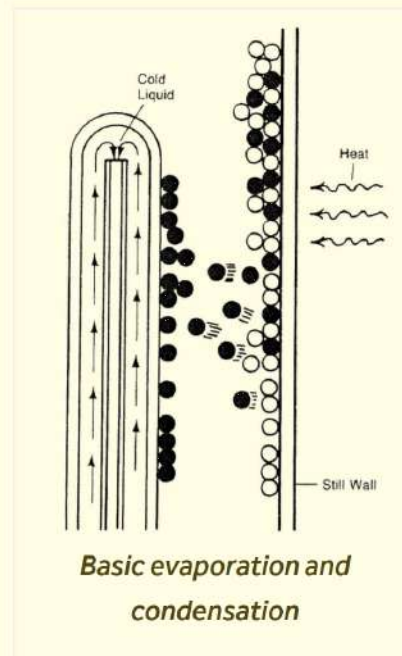


The Molecular Background

Wiped-Film still technology takes advantage of the fact that each chemical substance has a characteristic vapor pressure. It is this relative difference in vapor pressures which dictates how easily a complex compound can be separated into its constituent components.

Since the molecules of all matter are in constant motion in varying degrees, depending upon the chemical composition of that matter and the temperature and pressure applied to it, molecules near the surface have a tendency to escape into the surrounding atmosphere. As temperature increases and pressure decreases, this escaping tendency usually increases and the substance is said to vaporize.

The force generated by these escaping molecules is referred to as the vapor pressure of that material at a particular temperature and pressure. It is the relative difference in vapor pressure of substances which dictates how easily a complex compound can be separated into its constituent compounds.



visit www.popeinc.com

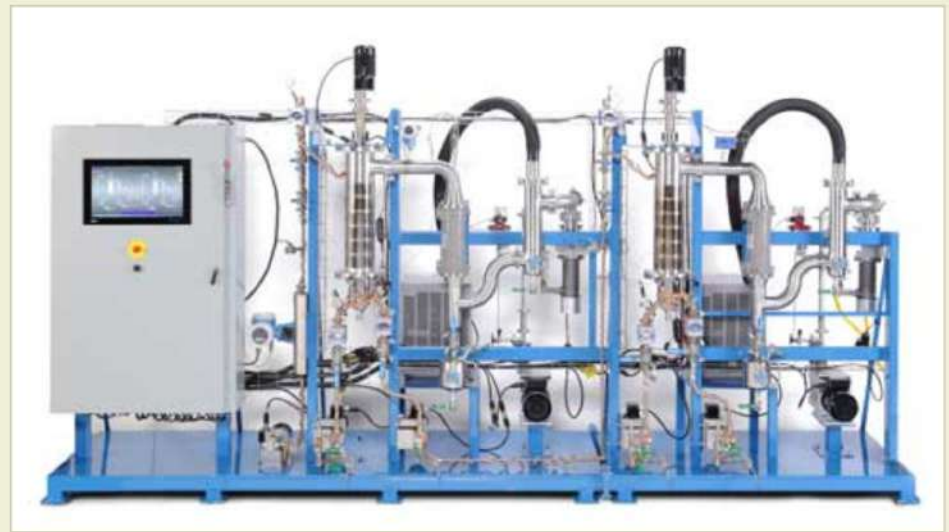




2 in Cannastill



4 in Cannastill w/3 Pump Option



2X6 in Turnkey PLC Cannastill

Extraction of DMT from *Mimosa hostilis*

[Video & PDF version](#)

The DMT Workshop

This 1280x720 MP4 video can be played with [Windows Media Player 12](#) (not available for Windows XP), [QuickTime](#) or with almost any Linux distro on a live CD or USB stick. Also available in various MP4 (Apple), WMV (Windows) and 3GP (mobile) resolutions. The video is free of charge although you are welcome to make a [Bitcoin](#) donation to 172GoBNE9LMkogRxmE2TKi6JwpFPPTY4et

Introduction

Mimosa hostilis root bark (MHRB) is widely available in powdered form and contains up to 1% DMT. The powdered root bark is usually boiled and taken after a harmine or harmaline containing plant such as *Banisteriopsis caapi* or *Peganum harmala*. Harmine and harmaline are monoamine oxidase inhibitors which make the DMT active orally and are quite nauseating. Boiled root bark is also very nauseating so these combinations don't usually make for an enjoyable evening. Another option is moclobemide, a more powerful pharmaceutical MAOI, which can be taken with extracted DMT (ideally as DMT fumarate) to avoid these problems. [Warning: using moclobemide with MDMA \(Ecstasy\) can be lethal.](#)

Theory

Traditionally an acid-base extraction is used. The root bark is powdered and acidified to around pH 3, usually with HCl. The liquid is filtered off or decanted and the process repeated three times. The collected liquid is then basified to around pH 10 with NaOH and extracted with a non-polar solvent, usually at least three times - shaken, not stirred! The DMT freebase is highly soluble in the non-polar but virtually insoluble in the aqueous phase, so the non-polar is separated off and evaporated to give a crude extract. This extract can be purified for smoking, although smoking or snorting DMT is not recommended as it is very irritating to the mucous membranes, due to its alkalinity. (Heptane can be used for crystallisation and is available in the US as Bestine, a rubber cement thinner). The crude extract is quite adequate for oral use however, or for the preparation of DMT fumarate, so the crystallisation stage is omitted here. (Heptane is less suitable for initial extraction from basified MHRB as it gives only two-thirds the yield of naphtha.) In practice the acidification stage can be omitted and it can be basified to far beyond pH 10, which helps to get a good partition without any emulsion, and saves using a pH meter. DMT is highly soluble in warm naphtha (up to 50 °C - DMT boils at 67-68 °C) but barely soluble below zero, so the naphtha can be recycled and the precipitate dried rapidly. (Recycling solvents is advisable as some DMT will remain in solution below zero.) The crystals below are produced by evaporation. Freezing naphtha yields a powder (in weighing boat below) which is less sticky and a paler yellow than the crystals, but probably of higher purity and considerably quicker and cheaper to produce.

Chemicals and Equipment

Deionised Water (from any car accessory shop)

Sodium Hydroxide (Caustic Soda - for unblocking drains from DIY stores)

Naphtha (petrol lighter fluid)

Safety goggles and rubber gloves

Glass bottle with plastic screw cap

McCartney bottle or similar

Funnel

Pipette

Three-valve pipette filler (optional)

Poultry baster

Rectangular Pyrex dish

Single edge razor blade

Scalpel



MHRB powder



Chemicals



Equipment

Method

SAFETY GOGGLES AND RUBBER GLOVES MUST BE WORN AT ALL TIMES WHEN HANDLING CAUSTIC SODA

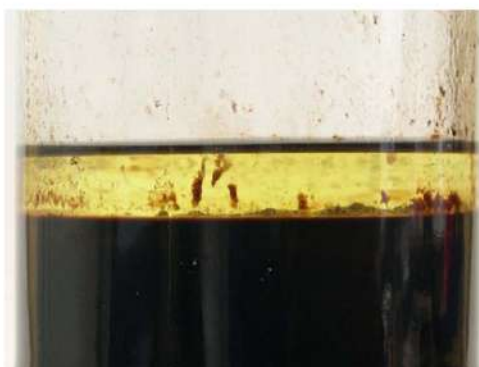
1. Add 200 ml deionised water to the screw cap bottle. Then add 5 g of caustic soda while wearing protective goggles and gloves. Allow enough space

1. Add 200 ml deionised water to the screw cap bottle. Then add 5 g of caustic soda while wearing protective goggles and gloves. Allow enough space for shaking - the bottle shown is a pint vinegar bottle (568 ml). The caustic soda will need shaking to dissolve, or the bottle base will become very hot. Once dissolved add 20 g *Mimosa hostilis* root bark powder - a large bore funnel is useful. (Buy powdered root bark as the wooden stuff is likely to destroy your coffee grinder!) Wear a dust mask when handling the powder as it goes everywhere. Shake the bottle and leave the basified root bark overnight. To speed things up the sealed bottle can be placed in a saucepan of warm water up to 60 °C for an hour - plastic bottles are not recommended as they often develop cracks when heated.

2. Add 50 ml naphtha (35 g), recap the bottle and warm in a water bath to 60 °C. Loosen and retighten the cap to release any pressure - if the thread is weak a plastic wine cork should fit well, but ensure that it is held firmly during agitation. Remember that naphtha fumes are flammable. (If necessary wrap PTFE plumbing tape around the cork to get a tight fit.) The bottle must now be shaken vigorously for at least a minute while wearing protective goggles and gloves - the DMT shuffle! Leave the bottle to rest in the water bath at 60 °C after shaking. After a few hours there should be a clear partition between the caustic soda solution and the naphtha floating on top. Allow the bottle to cool, remove the cap or cork slowly and use a pipette to remove all the naphtha - you may need to tilt the bottle and use a long pipette - wear protective goggles and gloves in case of spillage and remember that naphtha is highly flammable. The poultry baster and long pipette fit together with plastic tubing (shown on the baster) so it can be inserted into the screw cap bottle. (The 1/4" tubing fits over the end of the baster and inside the open end of the long pipette.) Alternatively a three-valve pipette filler can be fitted to a long pipette. These clever devices have pinch valves for Air, Suction and Empty and can be purchased cheaply on eBay. A McCartney bottle is useful to help separate the phases as this is impossible in a wide vessel. Use a pipette to remove all the naphtha from the McCartney bottle and empty it into a rectangular Pyrex dish. Place the Pyrex dish in a freezer for a few hours.

3. Remove the Pyrex dish from the freezer. Tilt it so that the naphtha can be removed from a corner with a pipette and place it in the screw cap bottle, making up the volume with fresh naphtha if necessary. (Pouring the naphtha from the Pyrex dish will remove crystals.) Invert the dish to keep dust out and leave at room temperature until all the remaining naphtha has evaporated. You should be left with deposits of tiny crystals which can be scraped up with a single edge razor blade. The crystals can be scraped off the razor with a scalpel into a Rizla paper - keep the scalpel blade in a wine cork when not in use. Repeat the process until no more precipitate appears - remember to loosen and retighten the bottle cap to release any pressure before shaking. To save elbow grease a laboratory shaker can be used for the agitation - for best results it needs to be run at full throttle and on the floor for safety. Vigorous agitation will create an emulsion which can take a few hours to resolve in a warm water bath, but gives a much greater yield than gentle agitation. If emulsion remains in the naphtha, the phases should separate in a McCartney bottle. If smaller or larger quantities of caustic soda are used the emulsion will not clear as well - the ratio of 5 g caustic soda : 200 ml deionised water : 20 g MHRB powder gives optimum results.

4. To purify the extract, add to naphtha in a sealed jar or McCartney bottle. Place on a hotplate stirrer until warm and thoroughly stirred. Once dissolved, decant off the naphtha from any crud with a pipette and freeze precipitate as before. This will give a fine yellow powder shown in the weighing boat below. Freebase DMT should be stored in an airtight container in a freezer.



Partition



Crystals formed by evaporating naphtha



Powder precipitated by freezing naphtha



Freebase DMT

Bulk Extraction Methods

In the bulk extraction below, 12 g caustic soda is added to 360 ml deionised water in four 750 ml olive oil bottles and shaken thoroughly. 62 g MHRB is then added to each bottle, shaken thoroughly and left overnight. 62 ml naphtha is then added and after warming on the hotplate, each bottle is secured to the shaker using stick-on Velcro (from haberdasheries) and bungee straps. Each bottle is agitated for one minute at full power and returned to the hotplate until the emulsion resolves. If emulsion remains in the naphtha, the phases should separate in a McCartney bottle. Three extractions are usually required. Both hotplate and shaker are operated at ground level for safety.



Olive Oil Bottles on Hotplate



Olive Oil Bottle on Shaker

SAFETY GOGGLES MUST BE WORN AT ALL TIMES WHEN SHAKING OR POURING CAUSTIC SODA SOLUTIONS

In the bulk extraction below, 67 g caustic soda is added to 2 litres deionised water in a 5 litre tin and shaken thoroughly. 333 g MHRB is then added, shaken thoroughly and left overnight. 250 ml naphtha is then added and the tin heated to 50 °C in a water bath. The tin is then shaken by hand for one minute, stopping when necessary to release any pressure. (The plastic locking teeth on the pouring spout are cut off to prevent the cap seizing on!) The contents are then poured into a narrow neck 2 litre erlenmeyer flask and kept warm whilst being magnetically stirred with a large stir bar. (The stir bar is gently inserted and removed by using a magnet on the outside of the flask - shown on the hotplate stirrer below. It is also handy if the stir bar needs to be centred in the flask.) Gentle stirring should help resolve any emulsion and gives a much cleaner product. (The hotplate stirrer can be plugged into a power meter to adjust the heat accurately.) After several hours the phases can be separated using a three-valve pipette filler with a long pipette. A McCartney bottle is useful to help separate the phases at the bottom of the naphtha layer.

The flask below is sealed using cling film with an elastic band, although polyethylene based DuraSeal would be more durable (paraffin based Parafilm M does not resist solvents). Film is more convenient than a rubber bung as the aperture can be almost covered when drawing off the naphtha, reducing evaporation. Three extractions are usually required. The final extraction may be waxy and can be improved by magnetically stirring on a hotplate in a small sealed jar with naphtha, then separating and freeze precipitating as before. Heptane is more selective and will leave any brown gum in the bottom of the jar, although more care is required as it attacks any rubber seals and pipette bulbs!

High density polyethylene (HDPE) containers are not suitable for bulk extractions as the naphtha dissolves some of the material making the extract sticky, particularly when heated in a water bath (which is necessary to achieve a good yield). A demijohn could be used instead of the tin below, provided that the bung is removed regularly when heating and shaking, to release any pressure. An alternative extraction method is to use an Erlenmeyer flask on a hotplate stirrer alone, but this produces a far lower yield than is obtained by shaking beforehand.



Water Bath



Erlenmeyer Flask on Hotplate Stirrer



Separation of Phases

Preparation of DMT fumarate

DMT fumarate is preferred for oral use after an MAOI as it is water soluble and causes less gastrointestinal disturbance, and can be stored indefinitely without refrigeration.

Add 1 g freebase DMT from the above extraction to 50 ml anhydrous acetone in a jar and place on a hotplate stirrer until warm and thoroughly stirred - use cling film to seal as acetone removes enamel from lids! Keep the first jar warm on the hotplate and add 310 mg fumaric acid to 50 ml anhydrous acetone in a second jar and place on the hotplate stirrer until warm and thoroughly stirred. Once both have dissolved, mix together and place on a hotplate stirrer until warm and thoroughly stirred. Swirl the jar and pour quickly into a rectangular Pyrex dish, replace cover and place in a freezer. (If necessary add more acetone and repeat to remove any residue in the jar.) After a few hours, decant off the acetone with a poultry baster and dry thoroughly on a hotplate. This will give an off-white crystalline powder which can be scraped up with a single edge razor blade. (Mixing all the ingredients together at once is effective but gives the product a yellow lumpy appearance.) The yield should be around 1200 mg, suggesting that the freebase could be 90% pure (1200 x 76%). The beauty of this method is that any excess fumaric acid dissolved in the acetone does not precipitate out when frozen!

Discard the used acetone by pouring onto concrete or tarmac, away from children or animals (it will evaporate very quickly). In this experiment the acetone was dried with anhydrous magnesium sulphate - produced by baking [Epsom Salts](#) in an oven above 200 °C. This produces a white cake which is powdered with a mortar and pestle. It is then magnetically stirred in a sealed bottle of acetone - a pint vinegar bottle is ideal. The acetone is then filtered off into a second pint vinegar bottle. Magnesium sulphate is a convenient drying agent to use as its appearance changes as it absorbs moisture. Drierite desiccant (CaSO₄) impregnated with cobalt chloride indicator is no longer recommended due to toxicity concerns with cobalt.

DMT is C₁₂H₁₆N₂ = 188 g/mol, mp 40–59 °C

DMT is $C_{12}H_{16}N_2 = 188 \text{ g/mol}$, mp 40–59 °C

Fumaric acid is $C_4H_4O_4 = 116 \text{ g/mol}$, mp 287 °C

(H=1, C=12, N=14, O=16)

DMT fumarate = $2 \times 188 + 116 = 492 \text{ g/mol}$, mp 152 °C (contains 76% DMT)

Acetone Boiling Pt. 56 °C, Density 0.791, Flash Pt. -18°C, Drying agents K_2CO_3 ; Molecular sieve 0.3 nm; $CaCl_2$



Dried DMT fumarate



DMT fumarate

Using DMT Orally

The usual caveats apply with any psychedelic about being in a safe environment and having someone with you, particularly if you are inexperienced. Particular caution is needed here with the use of MAOIs (such as *Peganum harmala* or *Banisteriopsis caapi*) which may be dangerous when combined with certain foods or medicines containing tyramine or other naturally occurring amines, which can cause a severe rise in blood pressure. Fasting is recommended but do avoid cheese, pickled herring, broad bean pods, yeast extract, chianti wine, and phenylalanine supplements. There have been fatalities resulting from combining MAOI antidepressants with serotonin reuptake inhibitors and with MDMA (Ecstasy) - see [Serotonin syndrome](#). Antidepressant MAOIs remain in the body for 2 weeks after use, except moclobemide which is eliminated within 2 days, while harmine and harmaline are eliminated within hours. SSRIs also remain in the body for some time, in particular fluoxetine (Prozac) which should be stopped at least 5 weeks before using any MAOI.

Dosing a half hour before with caapi is recommended. Simmer 20 g of shredded caapi in tap water for half an hour, strain off and repeat once. The cooled liquid is best drunk slowly. DMT fumarate can be taken dissolved in water, or in an enteric coated capsule to avoid the unpleasant taste and stomach irritation - taking with milk also reduces stomach irritation. Best to start with around 50 mg. Effects begin about twenty minutes later and last 4–5 hours. My personal preference is for moclobemide (150 mg) after a light meal, followed by an enteric coated capsule of DMT fumarate (150 mg) 50 minutes later. This combination should only cause mild nausea, although "moclo" tends to cause insomnia and is considerably more powerful than harmine or harmaline. Lying down will help to reduce nausea. [Warning: using moclobemide with MDMA \(Ecstasy\) can be lethal](#) (There is also evidence that combining 5-MeO-DMT with MAOIs can be dangerous - see [5-MeO-DMT Health Issues](#)) If used outdoors it's useful to carry a plastic water bottle as thirst can be a problem. If sleep is difficult the sedating antihistamine cyproheptadine (Periactin), or diphenhydramine (Nytol, Paxidorm) can give a pleasant comedown, without the hangover of benzodiazepines. Zaleplon, Zolpidem and Zopiclone are more powerful sleeping tablets, but can be habit-forming if used regularly. (Diphenhydramine is available from pharmacies and z-drugs can be procured online, with the bonus of endless unsolicited email for potions to perk up your sex life!)

If preferred, harmine, harmaline and tetrahydroharmine (THH) can be obtained in purified form from [FlowingVisions](#). Harmine and harmaline are supplied as freebase and will dissolve in citric acid solution, while tetrahydroharmine is supplied as HCl salt which is soluble. 100mg of harmaline, 150mg of harmine or 200mg of THH is sufficient to potentiate DMT (allow at least a half hour before dosing). All three cause mild sedation and some gastrointestinal disturbance, although they are certainly preferable to caapi or harmala.

With regard to my experience of health effects, I would say without doubt that harmine, harmaline and tetrahydroharmine have some adverse effect on immunity, as do caapi and harmala. I find moclobemide taken alone to be neutral, while the combination of moclobemide and DMT fumarate most definitely has immune stimulating properties - it certainly assists in recovery from infections, although it can also be tiring (see [www.asthma.20m.com](#)).

In case of adverse effects, have drinking water handy in a plastic cup or bottle. Absolutely no glass. Caffeinated drinks should be avoided as should alcohol, cannabis or any other drugs. Psychotic symptoms can be overwhelming but should improve over time if the person is kept calm, ideally with the minimum of illumination. In this event any future experimentation should be undertaken at a reduced dose.

DMT and the Law

Organic synthesis practical techniques

This clip is designed to cover all of the practical techniques used in A level chemistry to second-year level.

It will not serve as a review of all the reagents and conditions, but hopefully it will help you understand how to plan what techniques to use in a synthesis once you have worked out a scheme of reactions to follow.

When planning a synthesis, the main thing to ask is "is my product a liquid or a solid?"

Solid product?

Making it Separation Purification Checking purity
Synthesis - filtration - recrystallisation - melting point

Liquid product?

Synthesis - separate layers - dry the organic liquid - redistil



1:20 / 23:42





2:38 / 23:42



Solid product filtration

As organic solids are formed as impure substances due to incomplete reaction, they must be filtered impure and purified later. A **Buchner funnel** is normally used so filter action can be accelerated under **reduced pressure**.



2:40 / 23:42



Further purification of the solid: recrystallisation

There are various techniques for achieving this (check your exam board's specification/ textbook for which ones you need to know)



Dissolve the impure solid in a minimum amount of hot solvent.



Impurities and desired product will have different solubilities in the same solvent



7:06 / 23:42

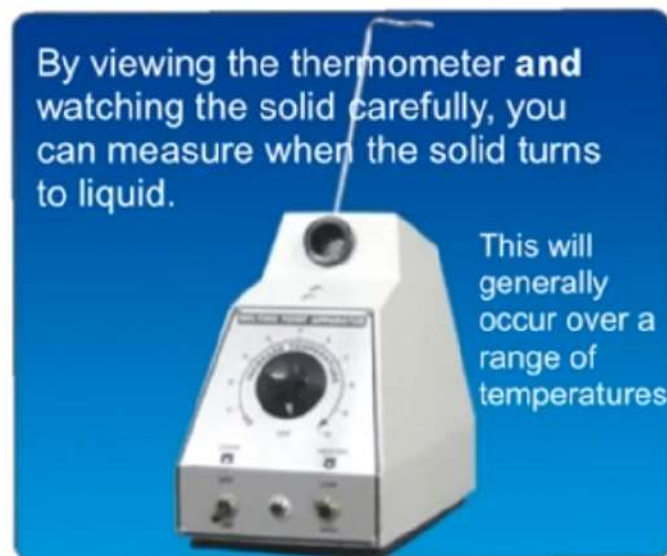


Checking the purity of the solid: melting point

Pure organic solids have a very sharply defined melting point range. The presence of impurities **lowers** this because the London forces in the simple covalent lattice will be disrupted by the presence of molecules of another substance (the impurity). Therefore there will be less of them so less energy will be needed to overcome those that remain.



A small sample of solid will be placed in a capillary tube section with one end previously sealed in the roaring flame of a Bunsen burner.

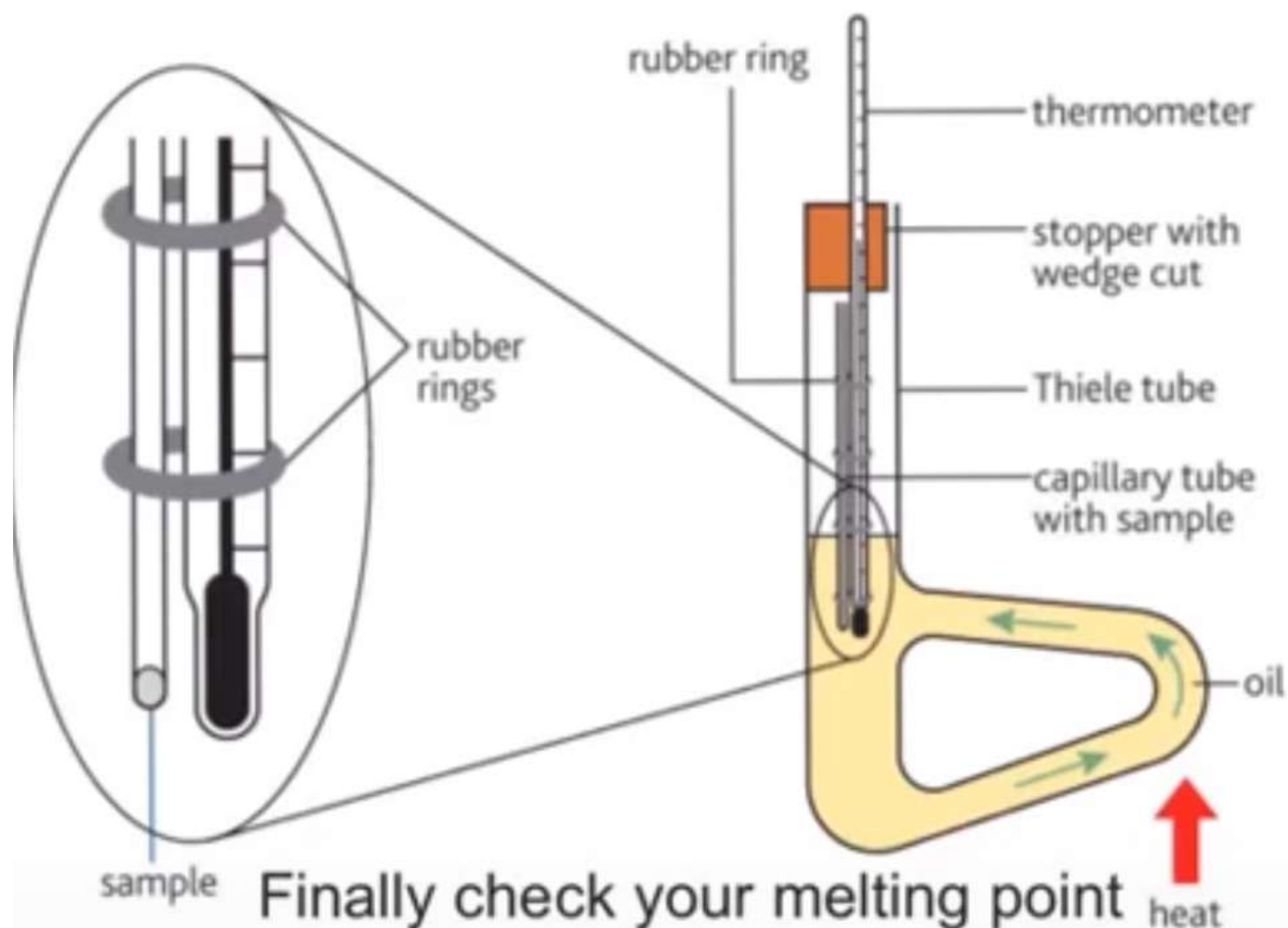


The eyepiece of the melting point apparatus contains a lens which magnifies what the viewer sees. At the same time a heating element is switched on, and the capillary tube rested against the metal rack



9:12 / 23:42

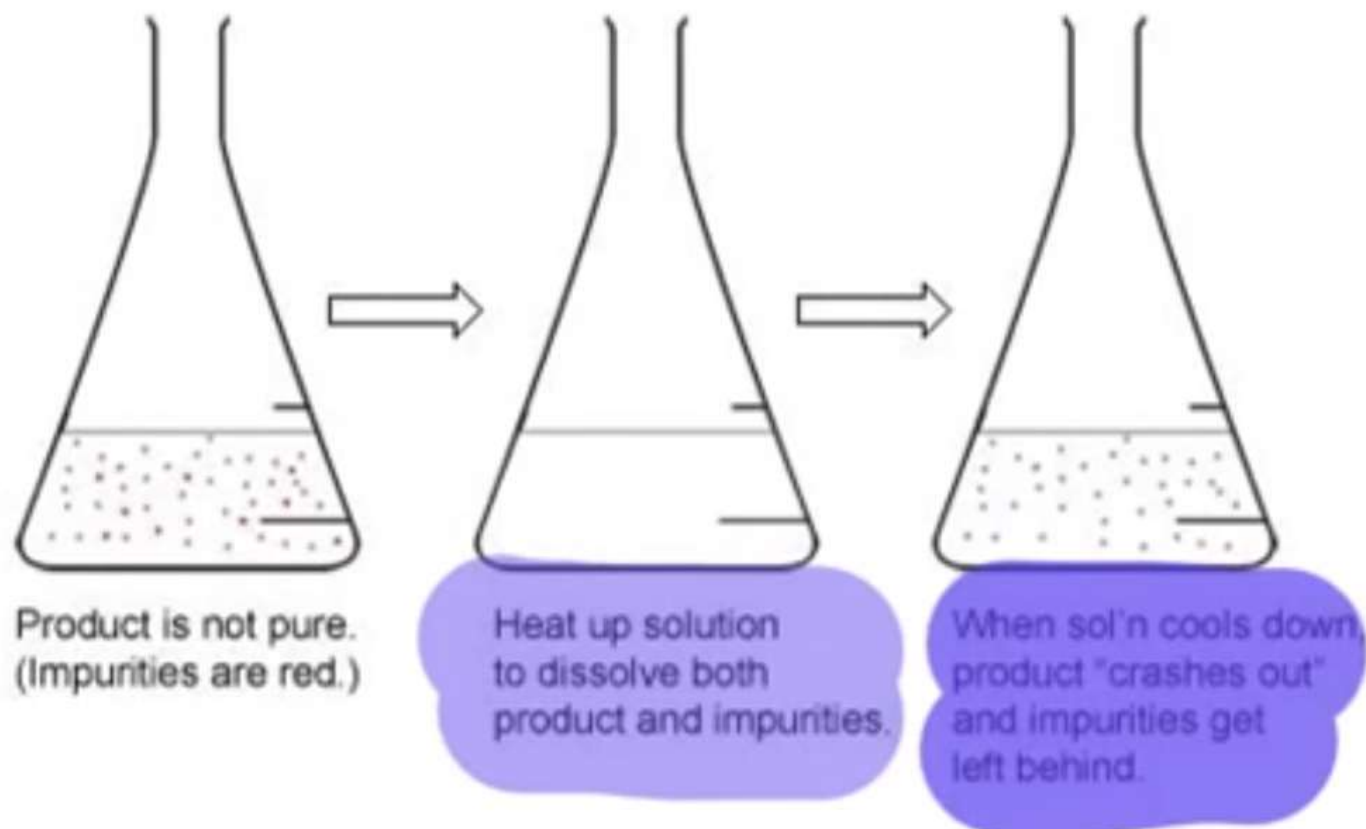




Finally check your melting point against a **database**

The **Thiele tube** is similar but this time heated oil is used. So even in a power cut you can get the candles out and carry on! (Not really that would be unsafe..!)

Recrystallization in a nutshell:

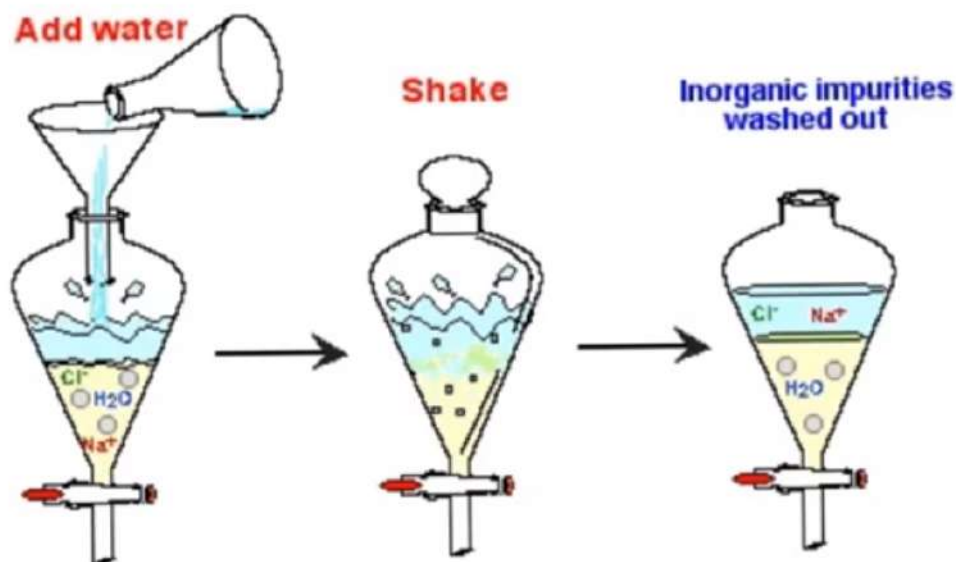
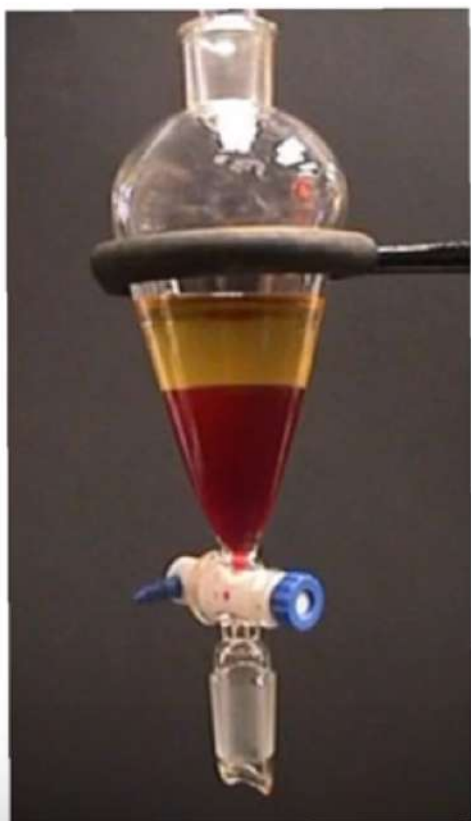


Another filtration technique is "hot filtration" where the hot solution is filtered to remove any undissolved impure solid. This may reduce yield but improve purity

all have different solubilities in the same solvent

Separating your liquid mixture

You've just synthesised an organic liquid. However it is also likely that at some stage in the synthetic route you've used **aqueous** reagents, so these need to be got rid of.



We often **wash** the mixture to get rid of unused aqueous reagents or impurities from earlier in the synthetic process.

Venting allows the mixture to release gases from the shaking

Two layers, aqueous and organic.
Which way round they are depends on
the organic liquid's **density**

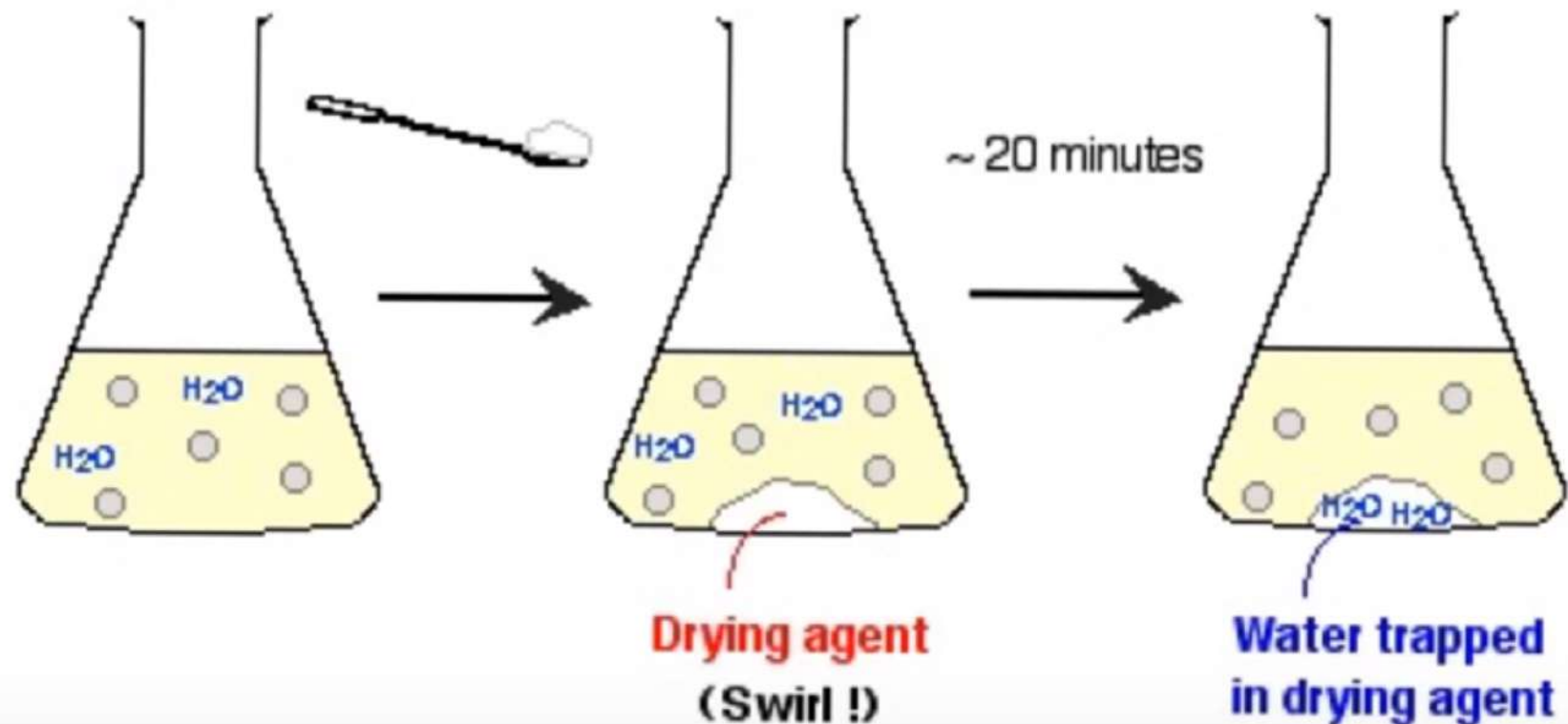
The density of water is 1.00g/cm^3
Cyclohexene has a density of 0.81g/cm^3



13:03 / 23:42



A drying agent such as an anhydrous salt will have a natural affinity for water



Good examples of drying agents would be anhydrous Group 1 and 2 chlorides and sulfates



13:51 / 23:42



Further purification of the liquid

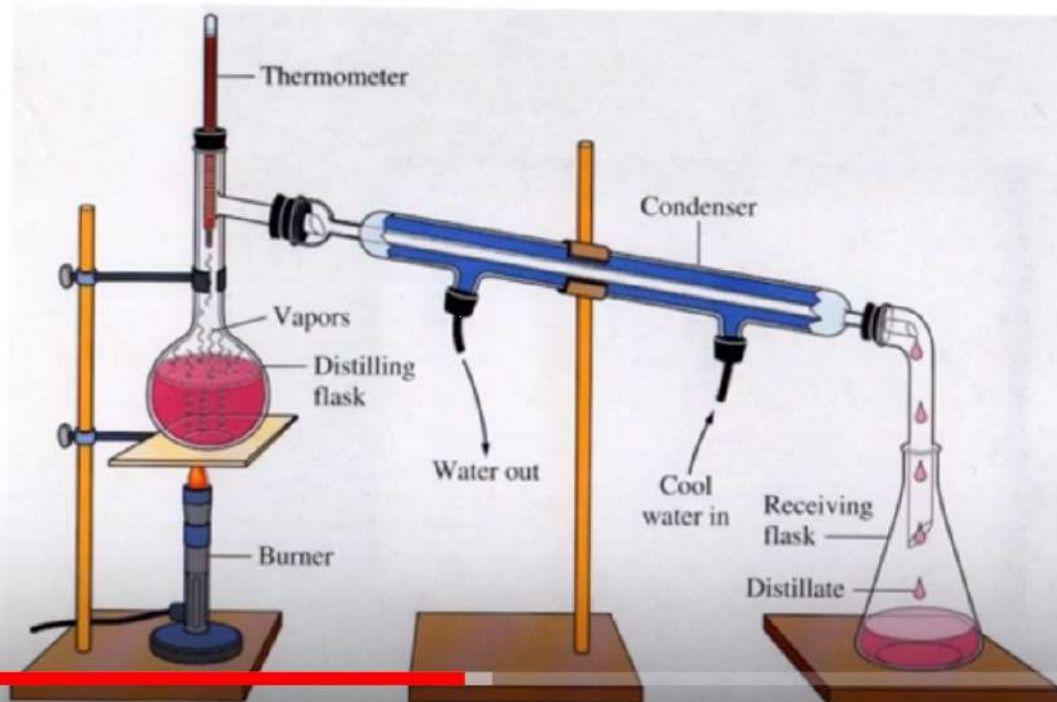
Now we're about 15 minutes into the clip, you may wish to pause and make some flashcards to use with the questions that follow.

At this point we have **dried** the liquid chemically, and if acids were used in the synthetic process, we could add a solid carbonate to react with them prior to drying.

This would produce fizzing as carbon dioxide gas is made, and when the fizzing dies down, the acid is reacted. Now the mixture can be filtered and re-distilled

Distillation will separate the desired product at its given boiling point, using a reflux condenser set horizontally at a slight angle.

If distillation was part of the earlier synthesis process, then this second distillation would be called **re distillation**



14:53 / 23:42



PREPARATIVE TECHNIQUES I (Preparation of 1-bromobutane)

In an experiment to prepare 1-bromobutane, 10 g of sodium bromide, 10 cm³ of water and 6.0 g of butan-1-ol were placed in a round-bottomed flask fitted with a reflux condenser. 18 g of concentrated sulphuric acid were then slowly added over a period of 10 minutes, with the flask standing in a cold water bath, after which the mixture was gently boiled under the reflux condenser for 45 minutes. The apparatus was cooled and rearranged for distillation with the condenser in a sloping position. Distillation was carried out until no more oily droplets were collected.

The distillate comprised two liquid layers which were separated in a separating funnel. The upper aqueous layer was discarded and the lower organic one was returned to the separating funnel, where it was shaken with 10 cm³ of concentrated hydrochloric acid. After separation, the lower layer was again returned to the funnel, where it was shaken with aqueous sodium hydrogencarbonate.

The organic layer was then run into a small conical flask and allowed to stand over anhydrous sodium sulphate until it became clear. Finally, the 1-bromobutane was decanted from the sodium sulphate into a small distillation flask and purified by distillation. Liquid boiling between 101 and 103 °C was collected in a measuring cylinder.

a) (i) Why was the concentrated sulphuric acid added slowly?

Conc acids tend to react exothermically [1]

(ii) What was the point of boiling the mixture for 45 minutes?

To allow the reaction to go to completion [1]

(iii) What was the purpose of boiling under a reflux condenser?

To avoid losing volatile products by evaporation [1]

(iv) What compounds would you expect to obtain on distillation with a sloping condenser?



16:36 / 23:42



Angelic Being (Eloheem). So Before The Birth Of **Seth** You Were Able To Contact The **Angelic Beings** At Random When You Still Had Your **Barathary Gland**, Which Was Originally Inside Of The Cavity Of The **Hippocampus** Area Of The Brain, In The Lower Part Of The Cerebellum.

The Cerebellum Is Located At The Lower Part Of The Brain And Is Attached To The Brain Stem. It Was A Gland In The Brain That Was Originally Connected To The Appendix And The Tonsils; The Same Way The Pituitary Gland Connects To The Thyroid Gland.

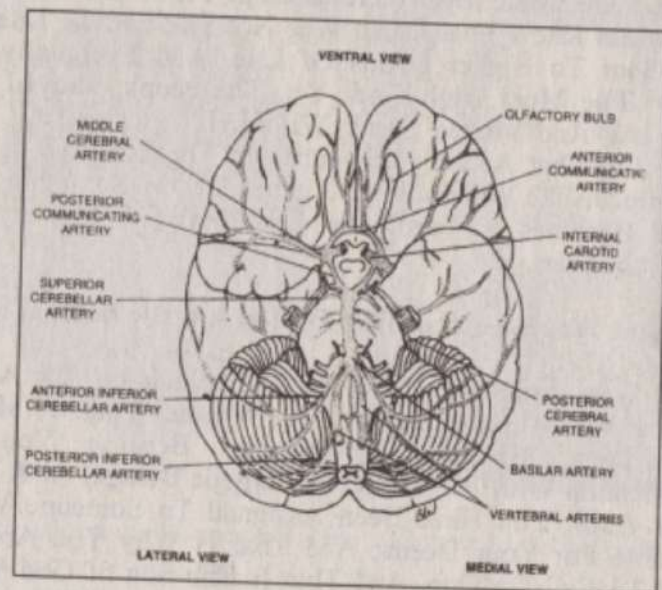


Figure 12 The Hippocampus Area Of The Brain Where The Barathary Gland Was Located

According To Sumerian Doctrine, Since The **Angelic Beings** Were Displeased With What Was Made, The Seed Of Adam Was Put Under A Spell, **The Spell Of Leviathan (Job Chapter 41)**. Before I Continue, I'd Like To Touch On What This Spell Was.

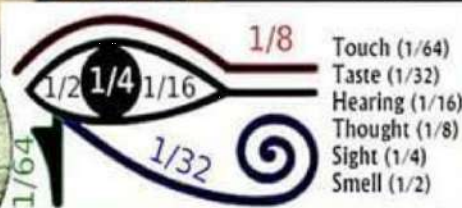
This Is An **Evil Hypnotic Spell Of Amnesia**, from the word *Nesia*, "to Forget" from the Galilean **Nas** (ناس), and Hebrew **Nas** (נָסָה) meaning "forgetful". The Spell of Amnesia Is A Sleep Of The Conscious Mind That Was Cast On Negro-African American People. It Is A Spell Of Racial Blindness, Hate For Self And Kind; Not Knowing Who The Devil Really Is, Or His Many Shapes And Forms. He Or She Could Be Anyone Because The Devil Comes In Many Forms And Races, And Possesses Negro-African American People To Work For And Even Kill For Him, And Against Their Own. These Are The **Black Devils**. **Leviathan** Was Set The Laws Named After The Serpent Leviathan, Which Is A Giant Sex And Spirit Force That Has Been And Still Is Being Used To Rule You; Keeping You In A State Of Loss, Not Knowing Your Purpose And Your True Identity; Who Your **God** Is And How You Can Regain His Forgiveness And Grace To Restore Your Soul Before It's Too Late (**Psalms Chapter 23**).

So Now, You Have To Work Your Way Back Through **Obedience**, Something Which Was Proven Time And Time Again That Homo Sapiens Are Unable To Do. For Example:

1. In The **Garden of Eden** When **Adam** And **Eve** Touched The Tree.
2. With **Cain** And **Abel** When They Tested Their Natures By Saying That They Both Prepare A Meal In **Genesis 4:3-4**. **Abel** Had A Good Meal And The **Angelic Beings** Respected Him. However, **Cain** Just Threw Anything Together And Said "Here". The **Angelic Beings** Did Not Respect His Offering. The **Angelic Beings** Even Told Him He Could Go Back And Do It Right And Repent In **Genesis 4:6-7** Where It States: "And The **LORD** Said Unto **Cain**, Why Art Thou Wroth? And Why Is Thy Countenance

WADIET

1/2	SMELL
1/4	SIGHT
1/8	THOUGHT
1/16	HEARING
1/32	TASTE
1/64	TOUCH



The light of the body is the eye: If therefore thine EYE BE SINGLE, thy whole body shall be full of light. Matt. 6:22
And Jacob called the place PINIEL; for I have seen God FACE TO FACE. Genesis 32: 30

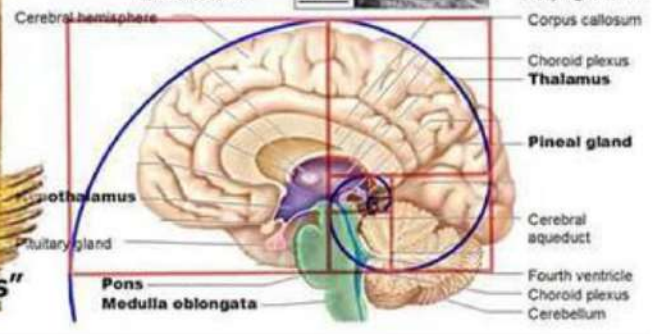
Emblem of Heru
Ancient Kemet 3500BC



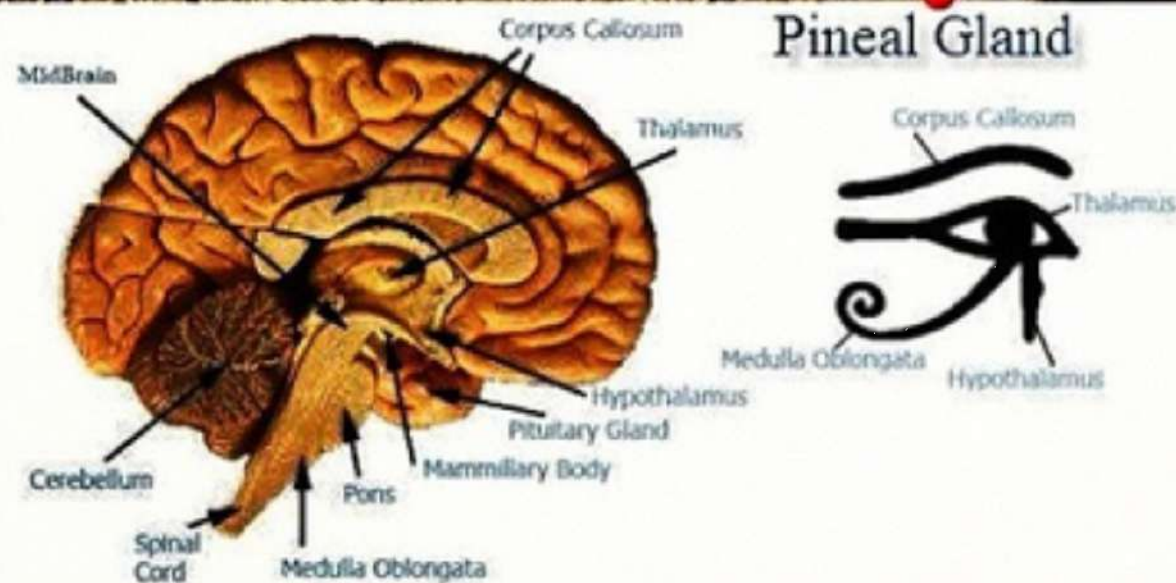
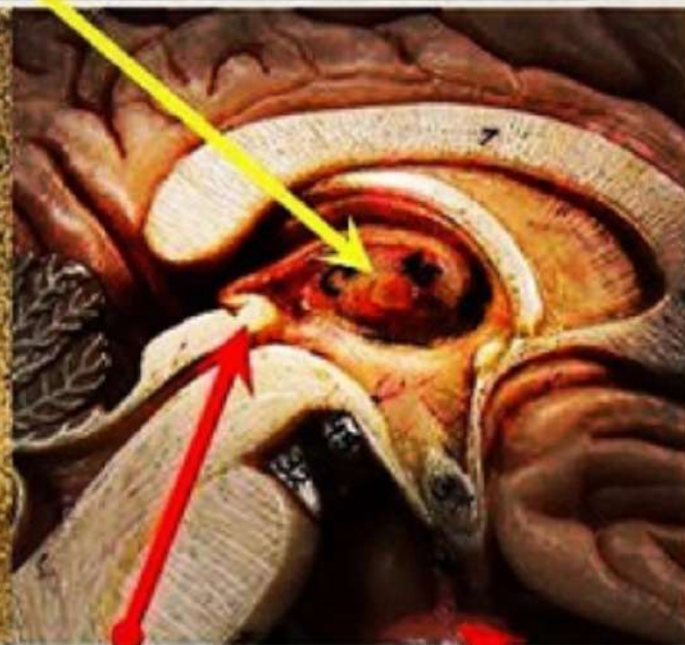
The All Seeing Eye of Horus is the Seat of the Soul & sits in the middle of the human brain! It is shaped like a tiny pine cone.



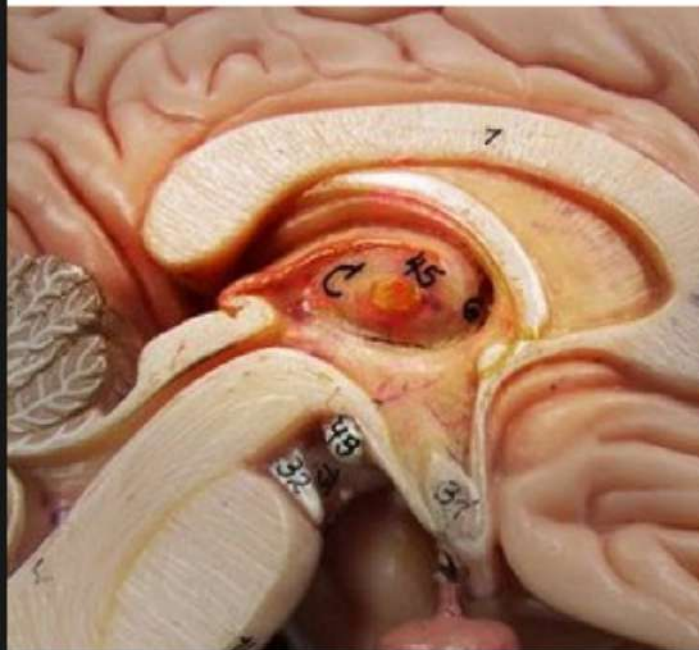
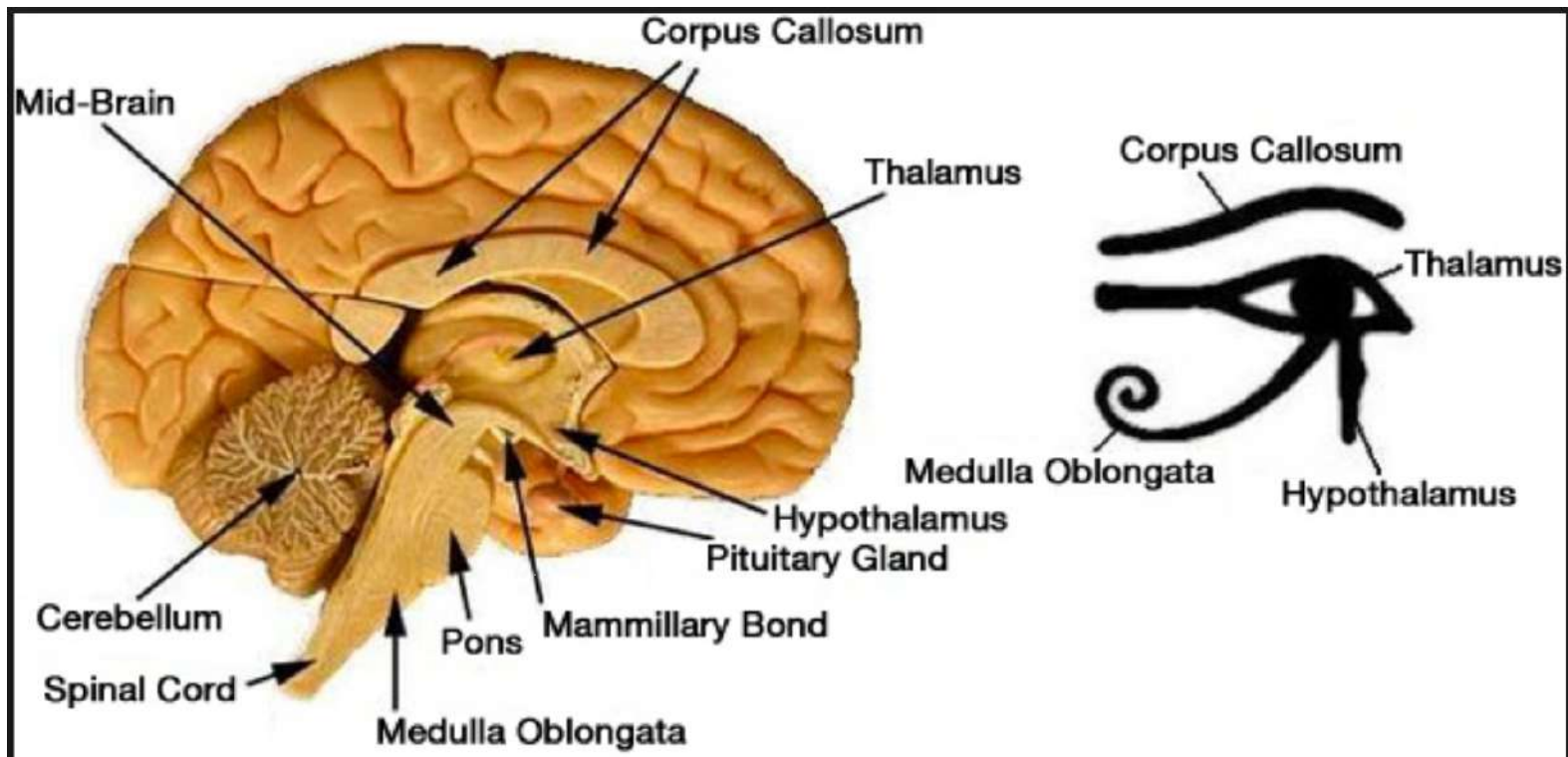
"unto you that fear my name shall the Sun of Righteousness arise with healing in his wings" Malachi 4:2



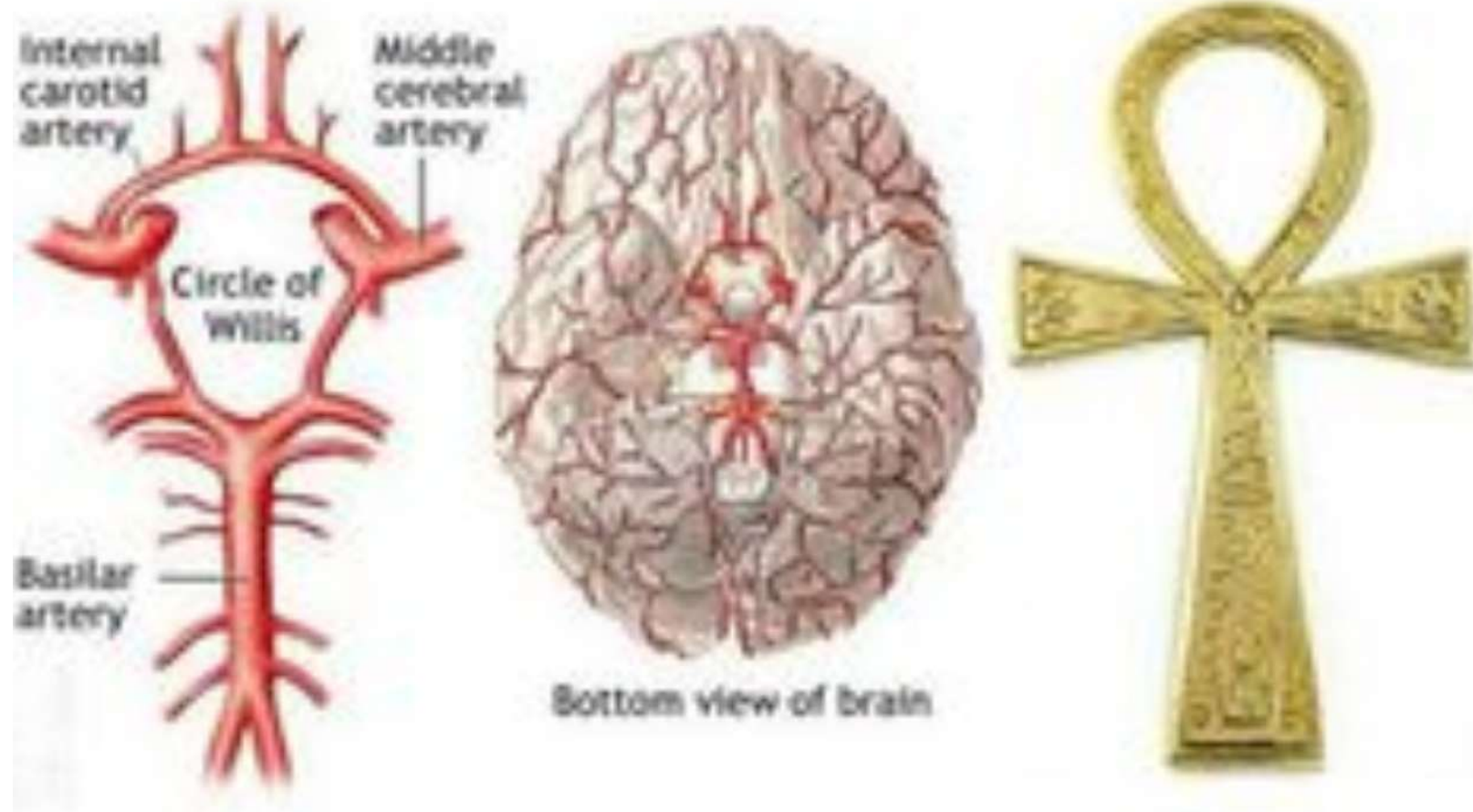
Third Eye - Thalamus - Eye of Horus



Pituitary Gland



"CIRCLE OF WILLIS"



AND THE KEMETIC ANKH

**HORUS THE WINGED
ONE-EYED GOD**

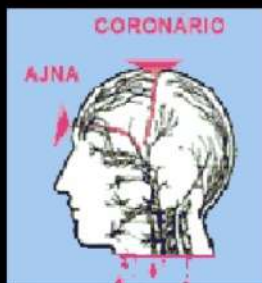


**HORUS O Deus
Alado e Caolhos**

**Wotan the Winged
One-Eyed God!**



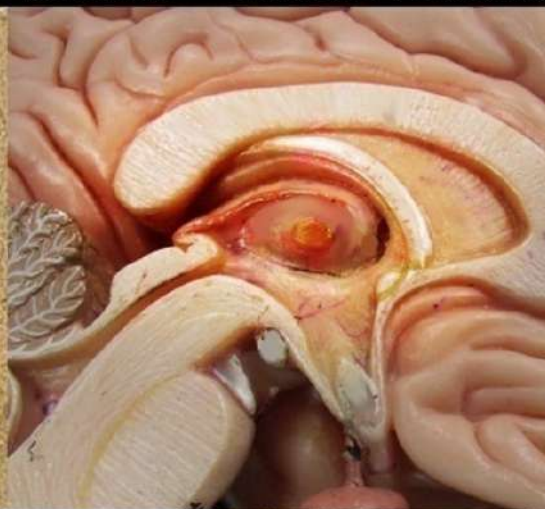
**Wotan o Alado
Deus Caolho!**



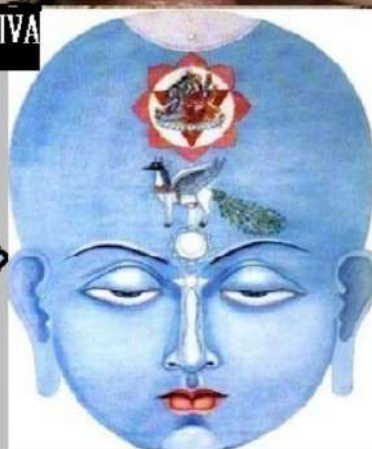
HORUS EYE - OLHO DE HORUS



PITUITARY - GLÂNDULA PITUITÁRIA



SHIVA EYE - OLHO DE SHIVA



O Pentagrama na Testa de Baphometh, simboliza o desperta da Mulher e do Homem, em seus 5 sentidos e Cinco Elementos, despertados pela atividade da Pituitária, através da real prática do conhecimento antigo.



The pentagram on the forehead Baphometh symbolizes, the awakened of the Woman and the Man, on your 5 Senses and Five elements, awakened by the activity of the pituitary, by real practice ancient knowledge.

**Wotan the Winged
One-Eyed God!**

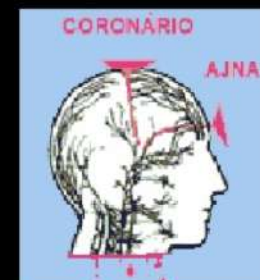


**Wotan o Alado
Deus Caolho!**

**HORUS THE WINGED
ONE-EYED GOD**



**HORUS O Deus
Alado e Caolhos**





Staff of Osiris
with Pine Cone



Staff of Dionysus
with Pine Cone



Staff of Bacchus with
Pine Cone



Pope with
Pine Cone Staff



Assyrian Deities
(Gods) with Pine
Cones in their
hands



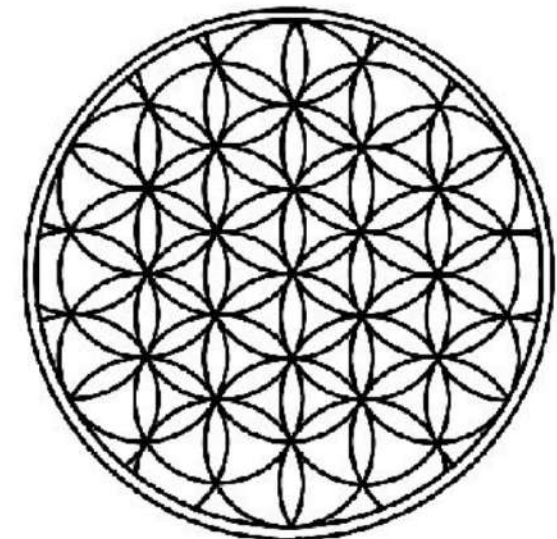
The Largest Pine Cone
Statue in the World is in
Vatican City



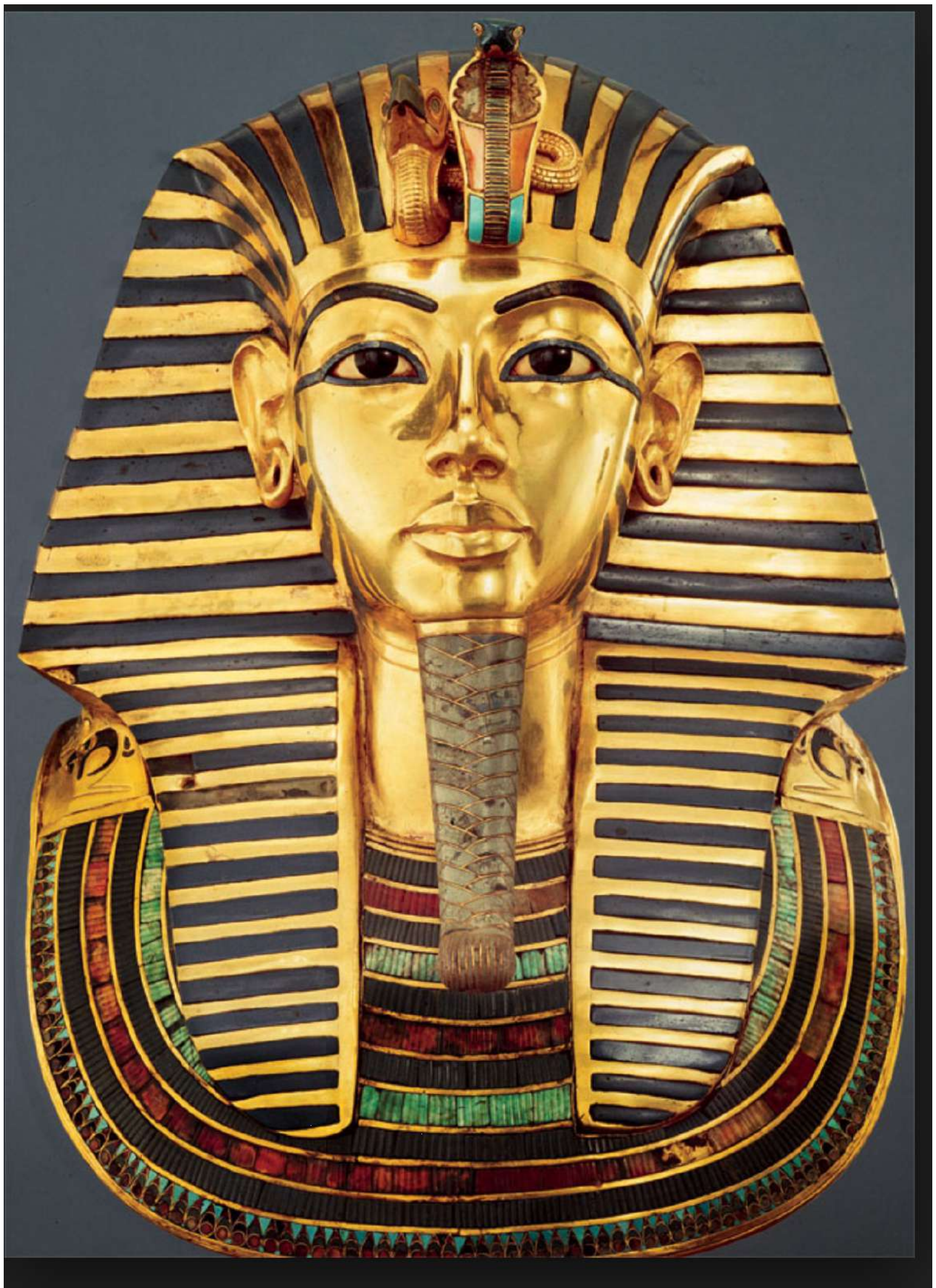
Temple with structures shaped like Pine Cones



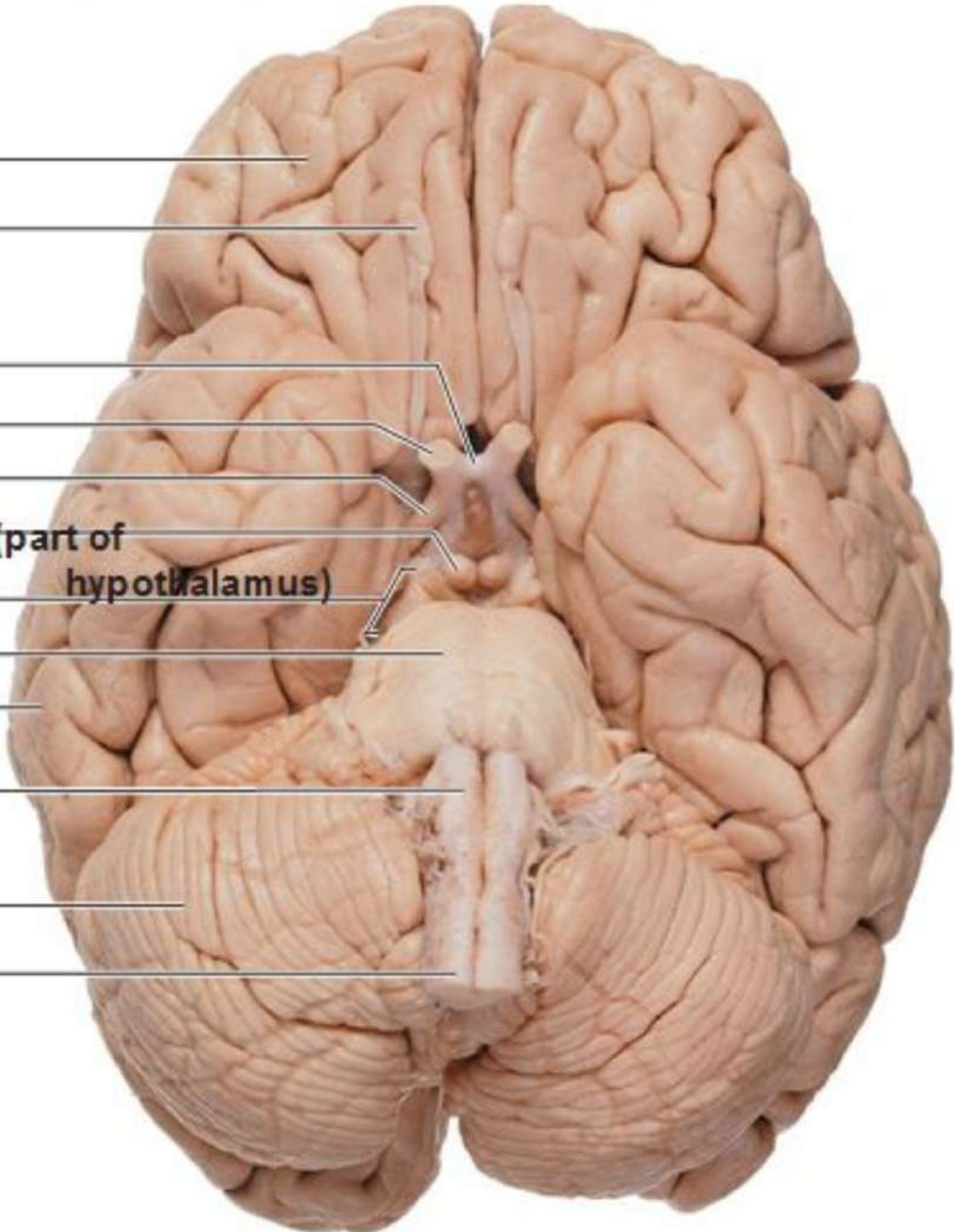
Top of a open Pine Cone



The Flower of Life symbol



Ventral View of the Brain

- 
- A detailed anatomical illustration of the ventral view of the human brain. The image shows the underside of the brain, including the cerebral hemispheres, brainstem, and cerebellum. Labels with leader lines point to various structures: Frontal lobe, Olfactory bulb (synapse point of cranial nerve I), Optic chiasma, Optic nerve (II), Optic tract, Mammillary body (part of hypothalamus), Midbrain, Pons, Temporal lobe, Medulla oblongata, Cerebellum, and Spinal cord.
- Frontal lobe
 - Olfactory bulb (synapse point of cranial nerve I)
 - Optic chiasma
 - Optic nerve (II)
 - Optic tract
 - Mammillary body (part of hypothalamus)
 - Midbrain
 - Pons
 - Temporal lobe
 - Medulla oblongata
 - Cerebellum
 - Spinal cord

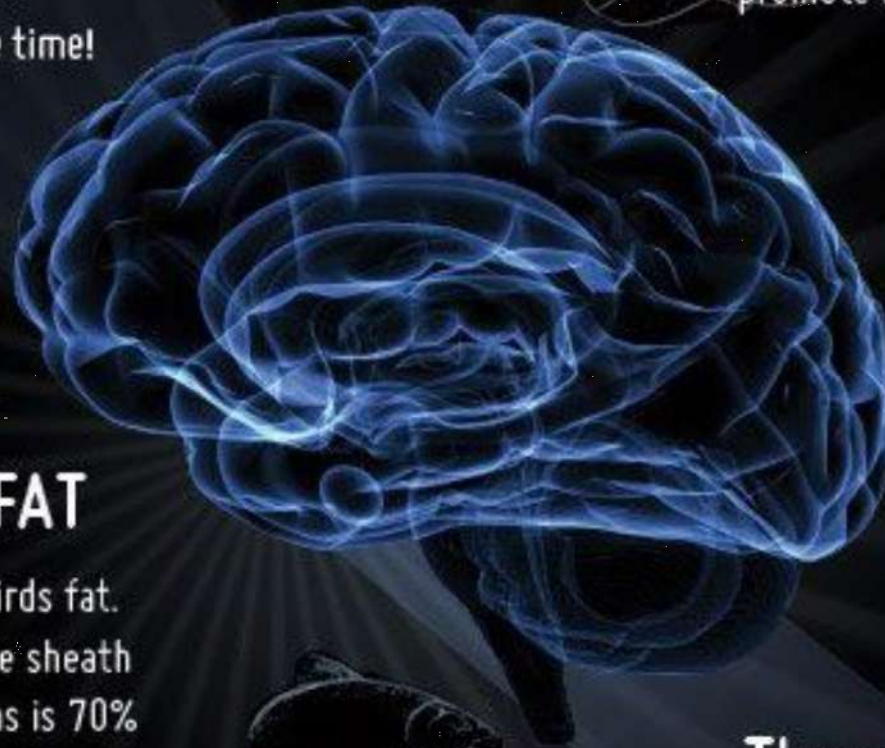
The conscious mind controls our brain only **5%** of the day, whereas the subconscious mind has a hold of our thoughts **95%** of the time!

conscious 5%
subconscious 95%

You have **70,000** thoughts per day



Boost your brain power with Meditation, it's proven to **increase IQ**, relieve stress, and promote higher learning levels.



66.66667% FAT

Your brain is two-thirds fat. Myelin, the protective sheath covering your neurons is 70% fat. Eating fatty fish, green leafy vegetables, olive oil, avocados, chia seeds, flax seeds, and nuts, replenish your neurons and brain cells.



Loss of fatty acids EPA and DHA are linked to depression, Parkinson's and Alzheimer's

Listen to Music

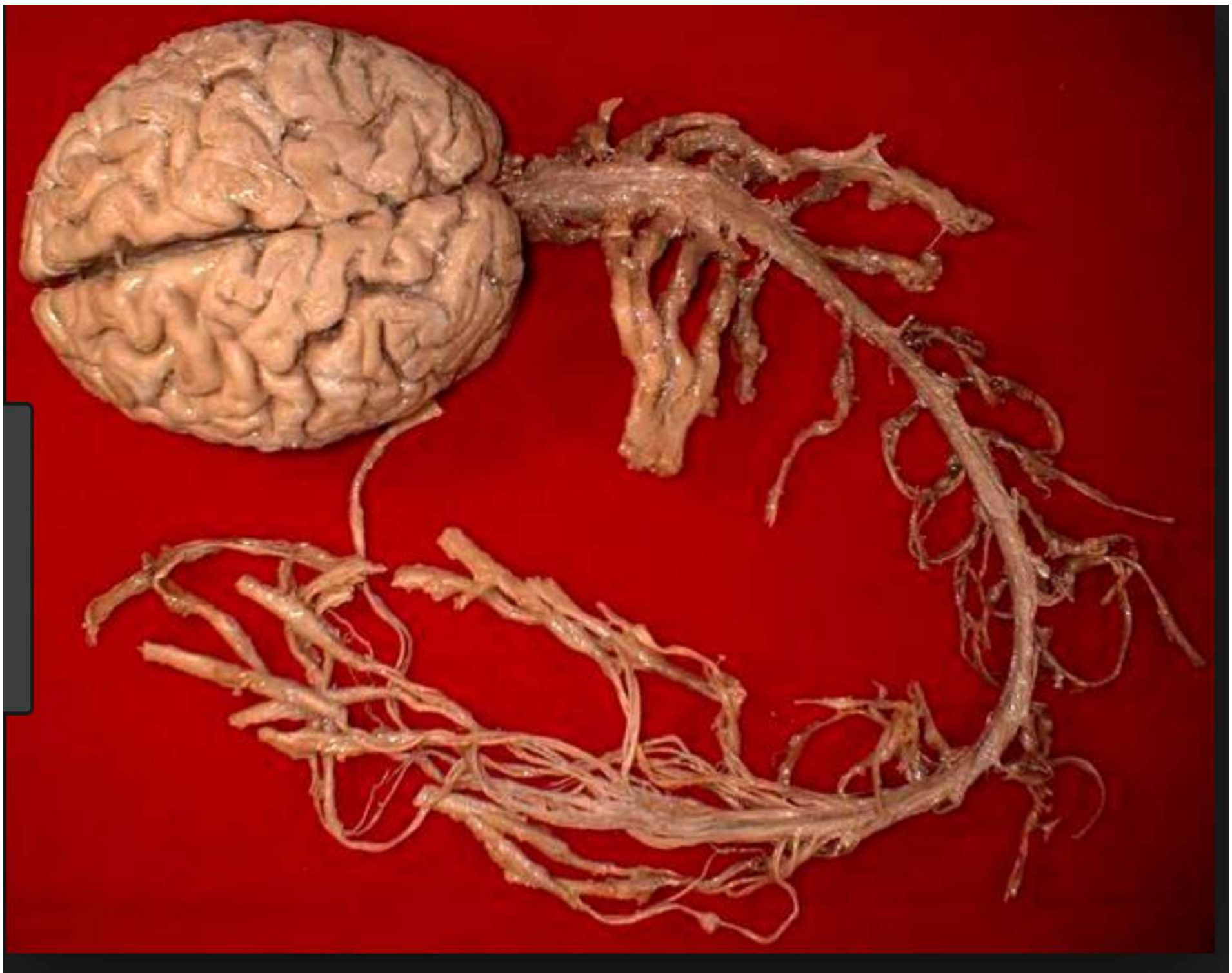
Studies have proven that listening to music strengthens the brain and literally changes the structure.



Thoughts Are Real

Your thoughts cause biological and physiological effect - Your body responds to mental input as if it were physically real.

www.undergroundhealthreporter.com





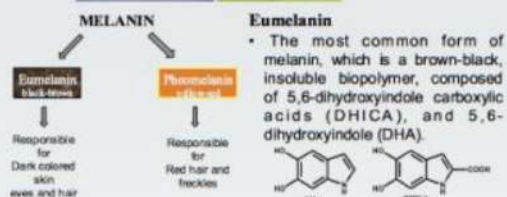
Progress Towards the Study of Metal Chelating Properties of Eumelanin-Inspired Small Molecules

Victor Ekehchiadi, Santosh Adhikari, Toby L. Nelson
Department of Chemistry, Oklahoma State University

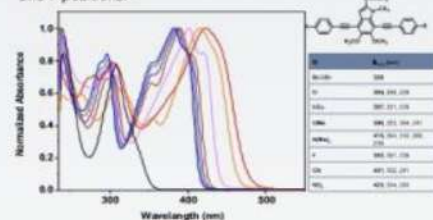


Introduction

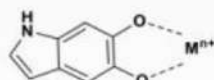
- Melanin is a pigment that is produced by cells known as melanocytes in the skin of most animals, including humans. This pigment comes in different shades, depending on the genetic make-up of the individual. Melanin comes in two basic forms, and can range from yellowish-red to dark-brown. The lack of melanin is responsible for albinism.



- Nelson *et al.* showed that eumelanin-inspired small molecules had high light absorption ranging from UV to IR region (visible range). They also demonstrated that optoelectronic properties of these molecules can be altered by changing the different substituents at 5 and 7 positions.¹



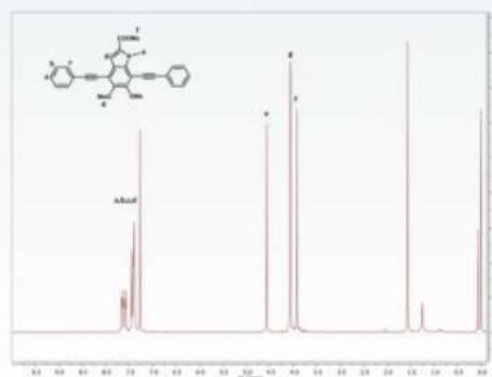
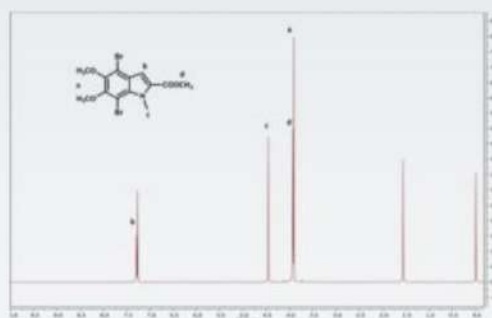
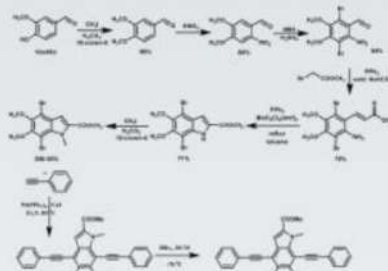
- Farmer and his co-workers worked on metal binding by melanin and showed that melanin molecules have high affinity for metal ions. His work also determined the nature of metal binding sites, and quantified binding affinities of different metals ions like copper and zinc.³



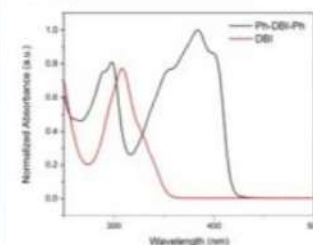
- The objective of this research is to synthesize eumelanin-inspired small molecule from vanillin extract and to study their metal chelating properties for their potential application in sensing different metals ions and water remediation.

Results and Discussion

Synthesis



UV-vis spectra of DBI and Ph-DBI-Ph



Conclusion

- Eumelanin-inspired core molecule (DBI) have been successfully synthesized.
- Eumelanin-inspired small molecule have been synthesized by Sonaghashira coupling reaction, and characterized by NMR and UV-visible spectroscopy
- The deprotection of methyl indylene ether has been attempted.

Future Direction

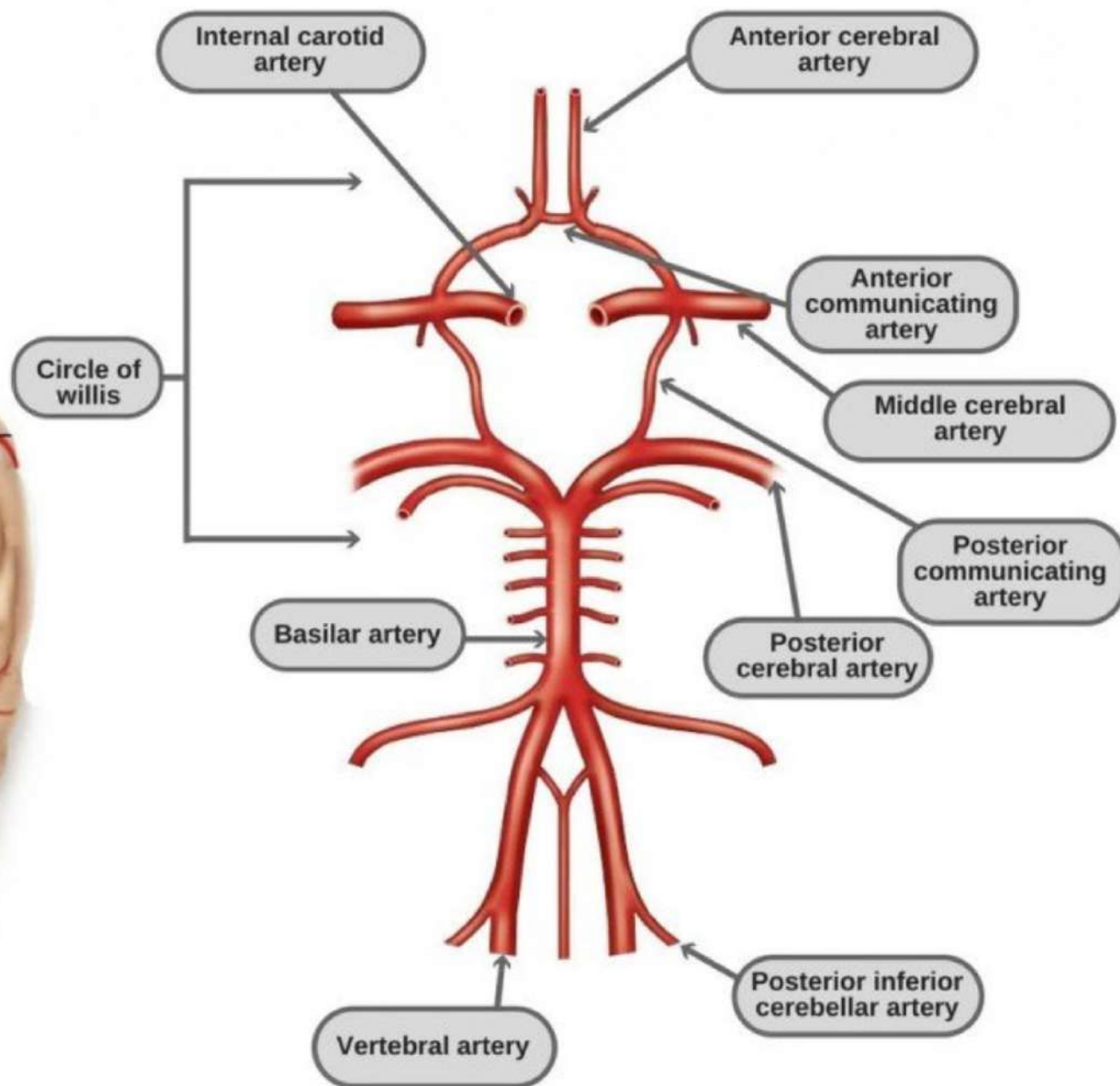
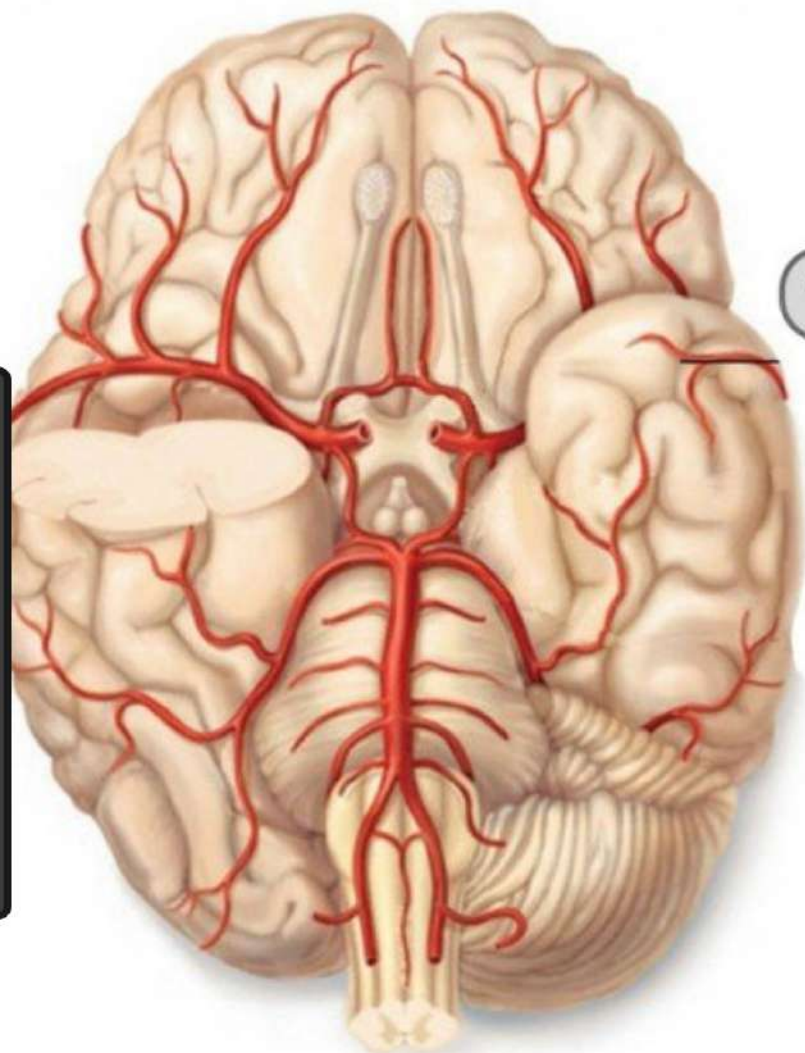
- Deprotection of DBI methyl indylene ether .
- Synthesis of eumelanin inspired small molecule from deprotected DBI molecule.
- Synthesis of eumelanin inspired molecules with different protecting groups in the 5,6 position (esters).
- Metal (Zn,Fe) binding to eumelanin inspired small molecules in the 5,6 position

References

- S. Selvaraj, S. Adhikari, R. Hopson, S. Dai, A. Rheingold, M. Borunda, T. Nelson :*Journal of Materials Chemistry C* 2015,9.
- Louise K. and J. Franz :*Inorganic Chemistry*. 2006. 45. 9. 3657-3664.
- Szpohanicz B. Gidarian S. Kong P. Farmer P. *Journal of inorganic biochemistry*. 2002.89.45-53

Acknowledgement

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- Ok-LSAMP



India



Russia



Germany



USA



Poland



Navajo



Tibet



Peru



Thracian



Anglo Saxon



Korea



Iran



AZTEC



GREEK



HINDU



CELT



HOPi



CHINA



JAPAN



ISLAMIC

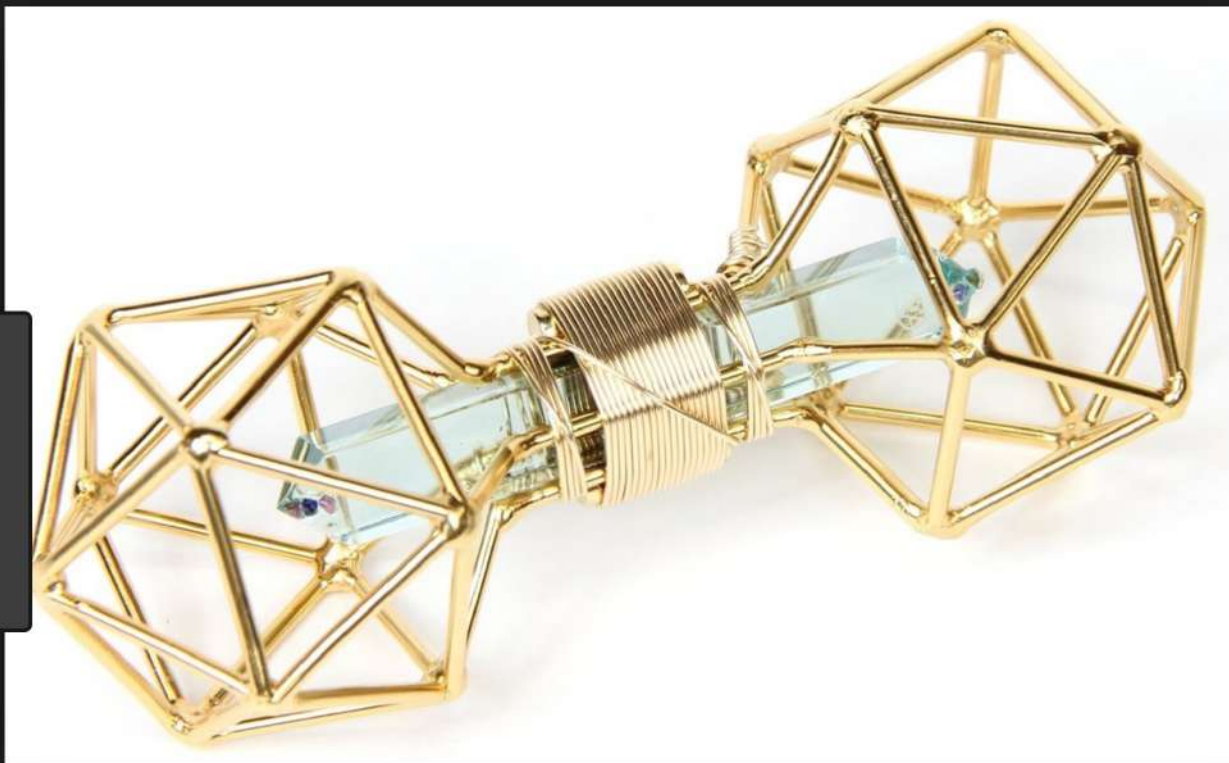


TIBET



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VAJRA



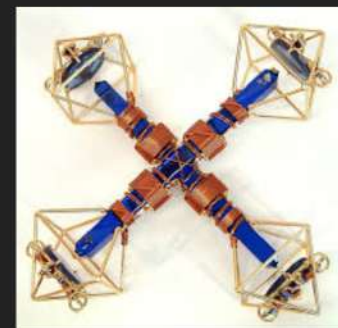
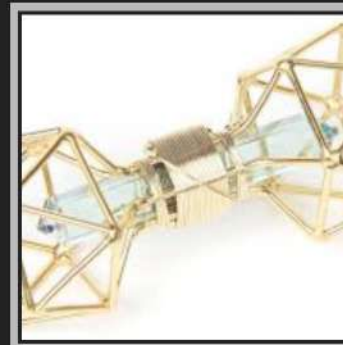
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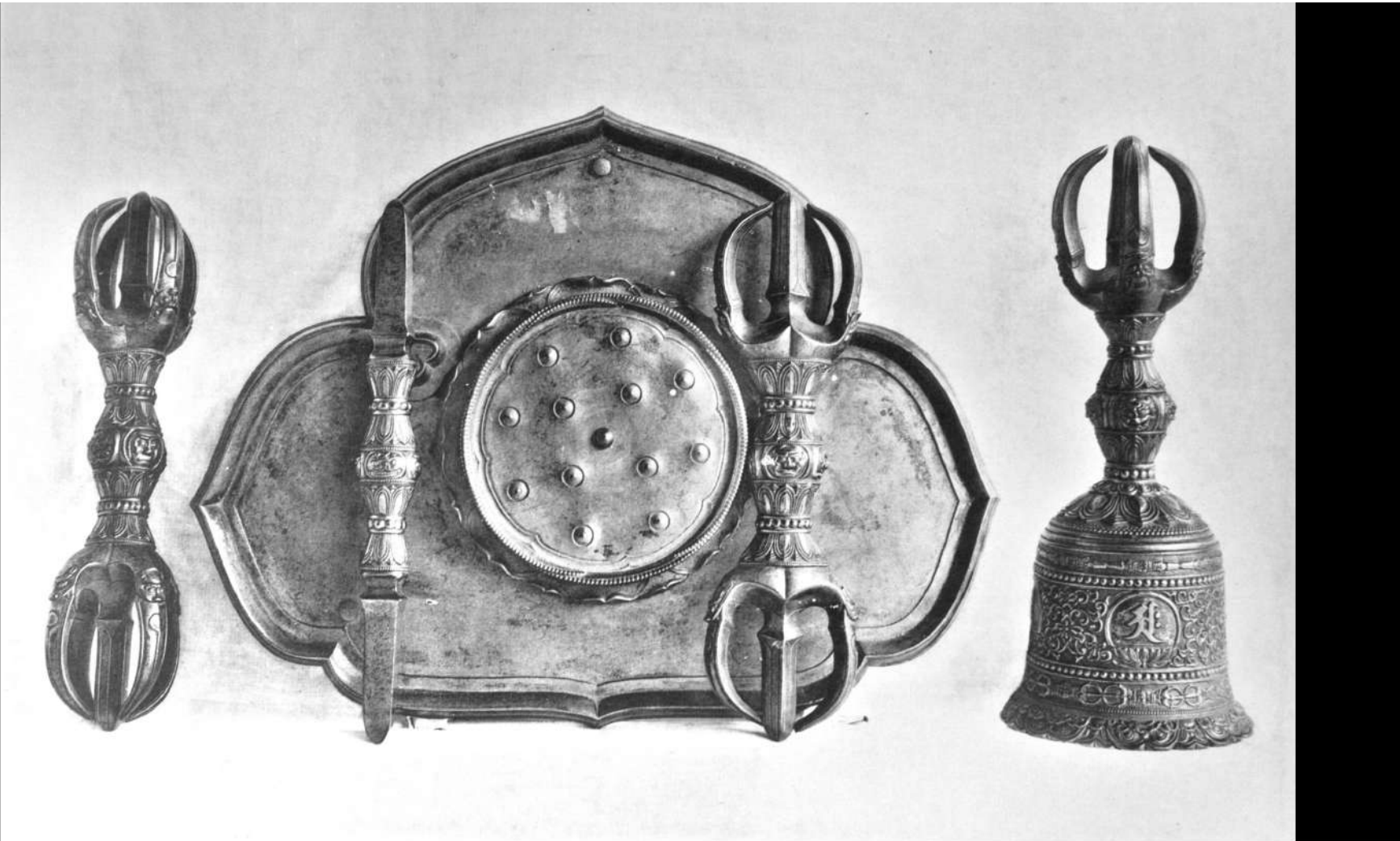
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Five ritual objects used in Vajrayana from the Japanese island [Ise](#): a five-pronged short club (vajra) (五鉤杵 *gokosho*), a pestle with a single sharp blade at each end (独鉤杵 *tokkosho*), a stand for vajra pestle and bell (金剛盤 *kongōban*), a three-pronged pestle (三鉤杵 *sankosho*), and a five-pronged bell (五鉤鈴 *gokorei*)



Symbolism of the Ghanta Bell

Please refer to descriptions in
Buddha Weekly <http://buddhawebweekly.com>

18. The Vajra crown, embodiment of the five Buddhas
17. Lotus of the Vajra crown
16. Wisdom face: Prajna Paramita (or Yidam)
15. Longevity vase of nectar
14. Six rings representing 6 perfections
13. Lotus throne of mandala deity
12. 8 Goddesses (seed syllables)
11. 8 Bodhisattvas (petals)
10. Eight-Petal Lotus
9. Vajra Platform
8. Offering Goddess Platform
7. The 8 Faces of Glory
6. 8 Bodhisattvas
5. Earth disc
4. Lotus womb
3. Vajra fence
2. Necklace of light
1. Disc of space

1. Buddha Figures with Buddha Appearance

- Shakyamuni Buddha
- Medicine Buddha
- Amitabha/Amitayus Buddha
- Vairochana Buddha
- Nagaraja Buddha
- Meru Shikara Buddha
- Muni Trisamaya Vyuha
- Buddhas of the Three Times
- Maitreya: Buddha of the Future
- Buddha's of the Six Realms
- Seven Supreme Buddhas of this Age
- Buddhas of the Ten Directions
- Twelve Dzogchen Buddhas (4 forms)
- Thirty-five Confession Buddhas
- Others....



1. Buddha Appearance.
Example: Shakyamuni Buddha

2. Buddhas that DO NOT have typical Buddha Appearance:

- Vairochana
- Amitayus
- Akshobhya
- Ratnasambhava
- Amoghasiddhi
- Vajradhara
- Vajradharma
- Vajrasattva
- Samantabhadra
- Twelve Dzogchen Buddhas (8 forms)
- Meditational Deities (ishtadevata)
- Others....



2. Buddha without Buddha Appearance. Example: Vajradhara

3. Human Figures with Buddha Characteristics

- Rahula (arhat)
- Nagarjuna
- Garab Dorje
- Padmasambhava (several forms)
- Sakya Pandita
- Others....



3. Human Figures with Buddha Appearance.
Example: Nagarjuna

TYPES OF PARTHENOGENESIS

- ◎ *Tychoparthenogenesis* Parthenogenesis or **Facultative parthenogenesis** is the term for when a female can produce offspring either sexually or via asexual reproduction. Facultative parthenogenesis is extremely rare in nature.
- ◎ Examples - mayflies, insects
- ◎ **Obligate Parthenogenesis**- Obligate parthenogenesis is the process in which organisms exclusively reproduce through asexual means. Examples- Lizards, fishes

Apomixis

- **Apomixis:** Development of seed or embryo without fertilization (sexual fusion).
- **Obligate Apomixis:** A plant which reproduces only by asexual reproduction.
- **Facultative Apomixis:** A plant which has the potential to reproduce either sexually or asexually. Both process may occur simultaneously or one may be predominant.

Micromalthus debilis life cycle

Adult Female



NO
SEXUAL
REPRODUCTION
ANYMORE

Adult Male



HEAT



pupal development

ANCESTRAL CYCLICAL PARTHENOGENESIS



HEAT

pupal development

Triungulin
legged,
migratory larva



PRESENT PAEDOGENESIS

PAEDOGENETIC CYCLE
Thelytoky
Viviparity

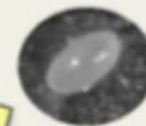
Cerambycoid
mother larva w/
triungulin daughters



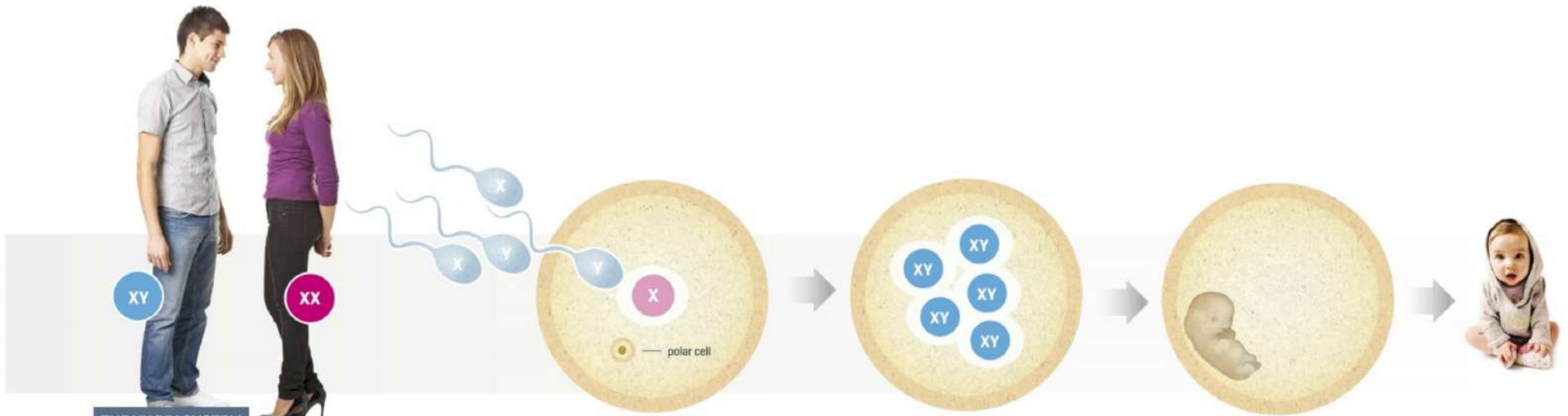
Dead End
Male larva
inside, eating
mother



Male Egg
Arrhenotoky
Oviparity



Male Larva is a
PRESENT DEVELOPMENTAL ARTEFACT



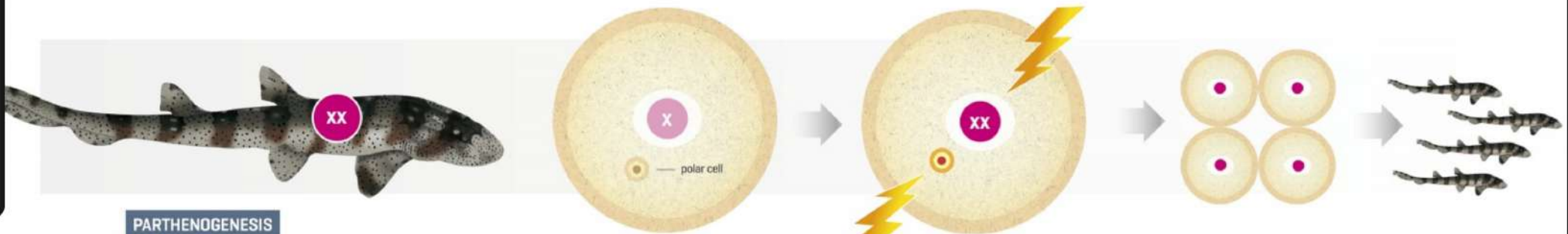
THE XX/XY SYSTEM

1 The XX/XY sex-determination system is found in humans, most other mammals, and some insects. Females have two of the same kind of sex chromosome [XX], while males have two different sex chromosomes [XY].

2 The male sperm cell determines the sex of an individual. If a sperm cell containing an X chromosome fertilizes an ovum (egg cell), the resulting zygote will be XX, or female. If the sperm cell contains a Y chromosome, then the resulting zygote will be XY, or male. The polar cell, a by-product of oogenesis [the creation of the ovum] degenerates during fertilisation.

3 Soon after fertilisation, the fertilised cell will begin dividing rapidly to form a cluster of cells called a blastocyst. The inner group of cells will become the embryo. The outer group of cells will become the membranes that nourish and protect it.

4 When it reaches the uterus, the blastocyst will burrow into the uterine wall for nourishment. This is called implantation. About 14 days after conception, the blastocyst becomes an embryo, then a fetus after 10 weeks.



PARTHENOGENESIS

1 Like her human counterpart, the female white spotted bamboo shark has XX sex chromosomes. During a process called meiosis the cells divide into four, one of which survives to become the egg, while the other three become polar cells, usually discarded.

2 The egg carries half of the female's chromosomes. Typically, these chromosomes get paired with male's set, which are contained in the sperm. But sometimes, in the absence of a male, something very unusual happens.

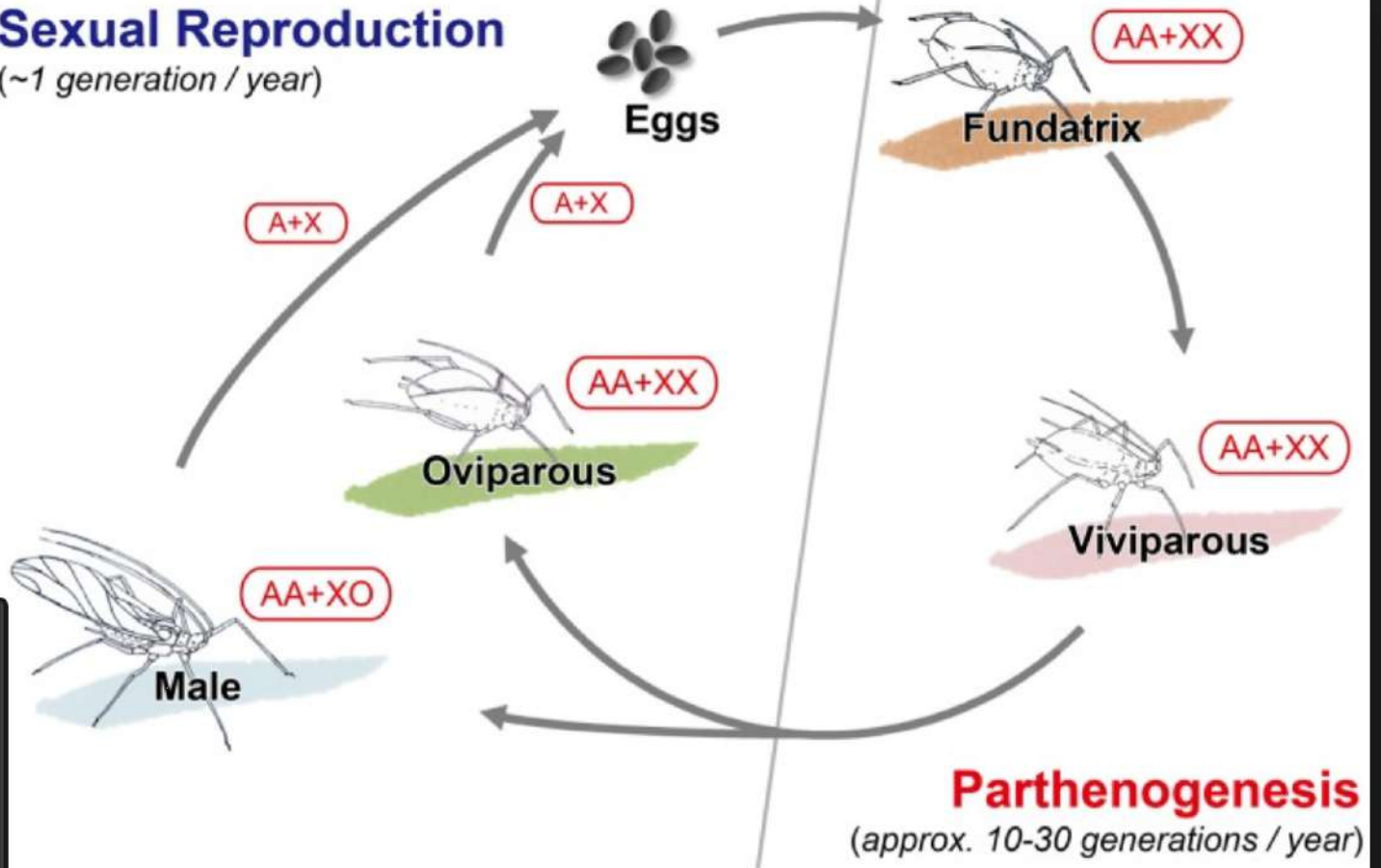
3 While nobody knows for certain, the most widely circulated theory is that some kind of stimulus causes a polar cell to fertilise the egg, adding the extra chromosomes. The newly formed zygote will always be female, but will have only its mother's genes.

4 The zygote then divides through a process known as mitosis, in which each cell doubles by dividing into two cells. The female then lays egg cases, each containing a developing shark embryo. The embryos feed solely on the yolk and it can take up to three months for the pups to hatch.

A

Sexual Reproduction

(~1 generation / year)



Sexual Reproduction

**C**

Parthenogenesis



Parthenogenesis

- Some insects such as bees and aphids will reproduce by **parthenogenesis**.
- During this process and **UNFERTILIZED** egg develops into an adult.
- For example the queen bee lays both fertilized and unfertilized eggs. The fertilized eggs will develop into female workers and the haploid eggs into male drones which mate with the queen.



Haploid drone

Queen

Diploid worker



Turkeys



Komodo Dragons

Certain species can reproduce
without a fertilized egg.

This ability is called *parthenogenesis*,
or unisexual reproduction.



Cape Bees



Burmese Pythons

Source: Britannica, University of Wisconsin-Madison Department of Animal Sciences

A newt can regenerate an entire limb within 7-10 weeks.



**Growth
cycle**



3-6 weeks



6-9 weeks

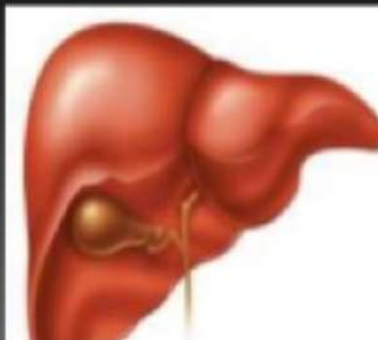
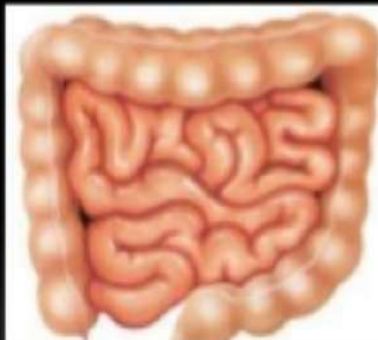
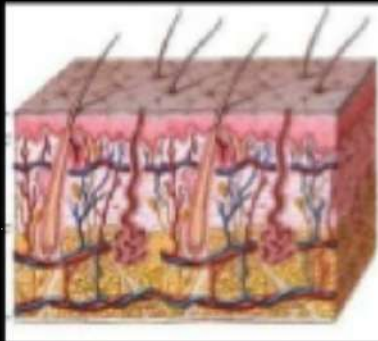


1 week



Regeneration in Humans

High



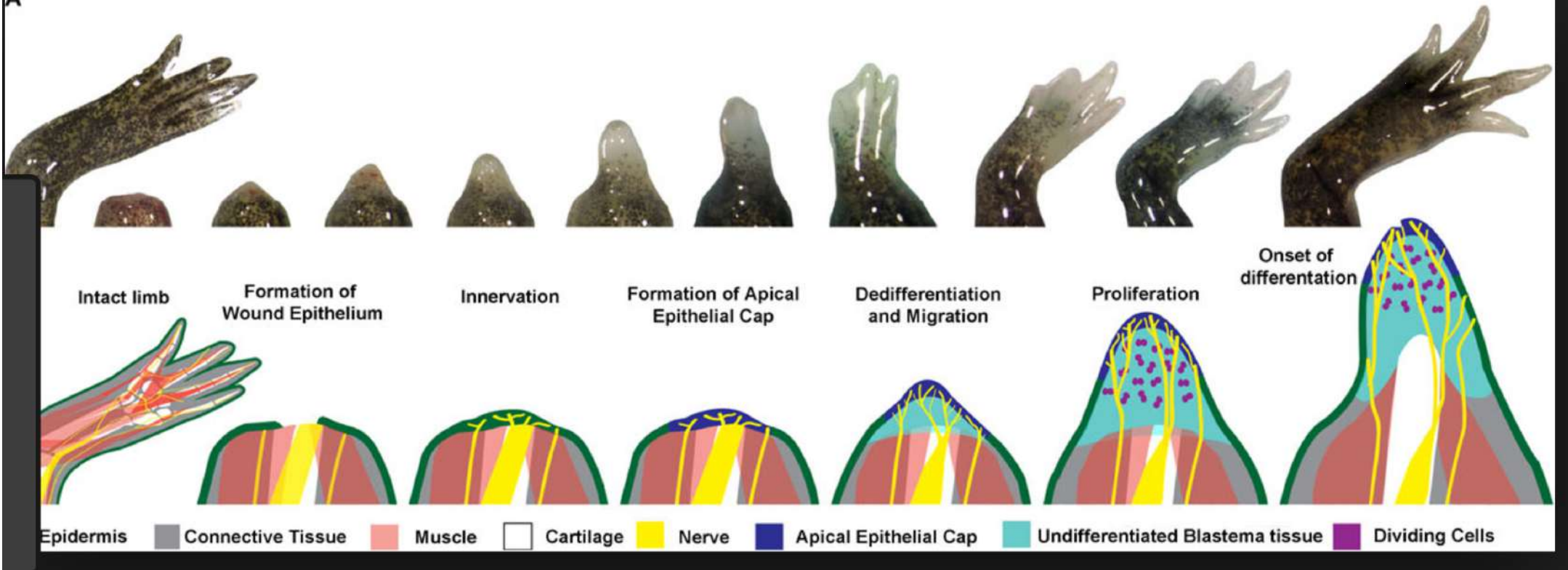
Moderate

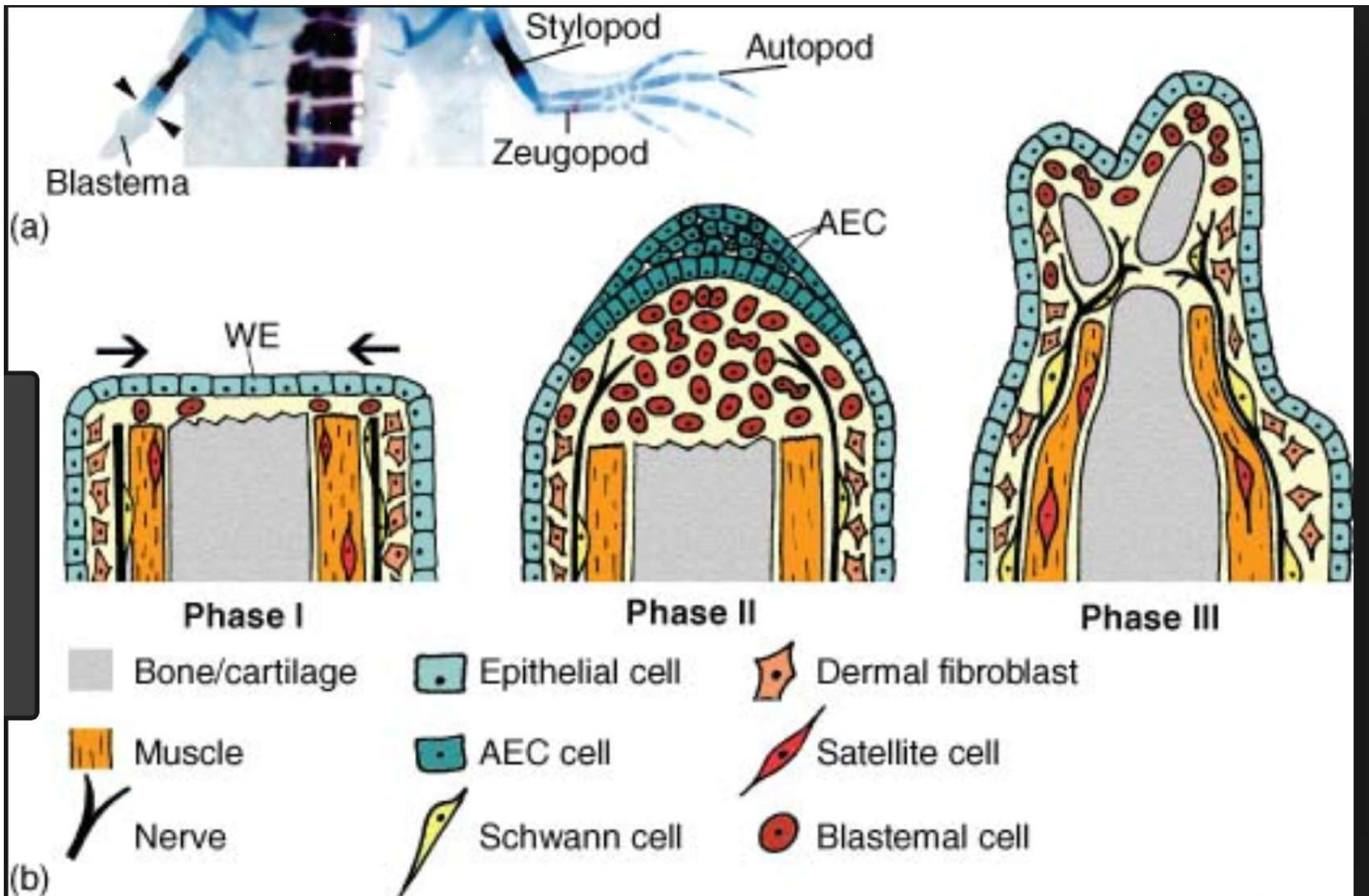


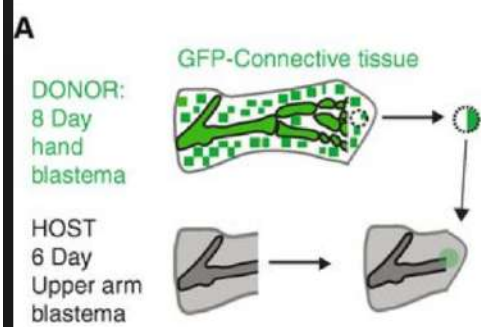
Low



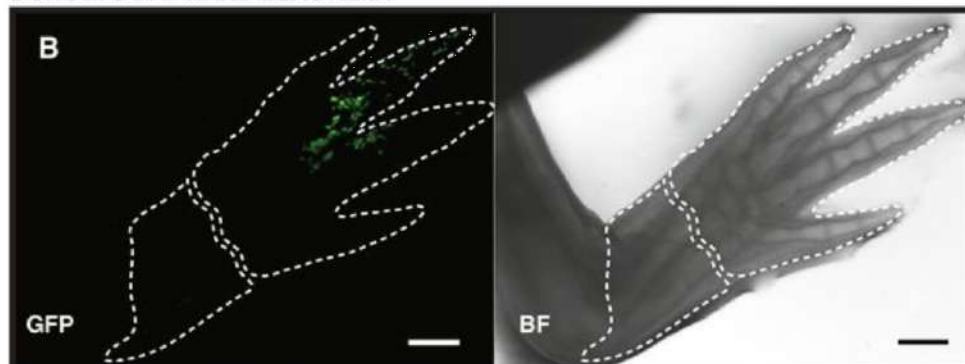
A



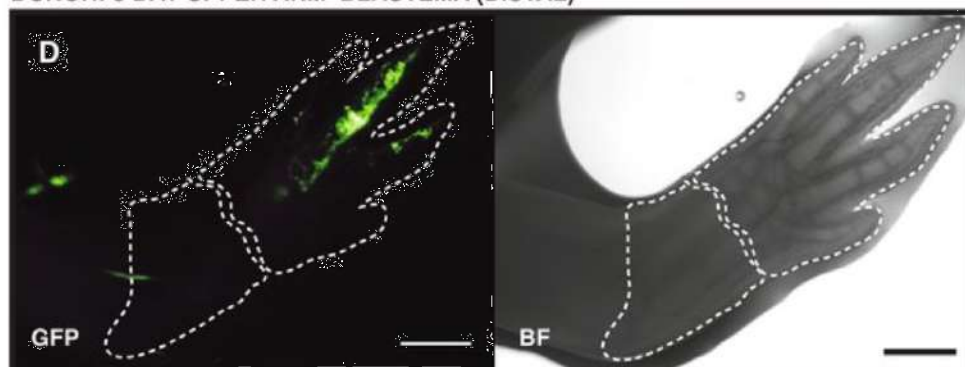
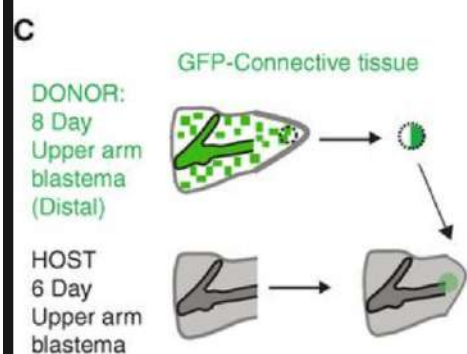




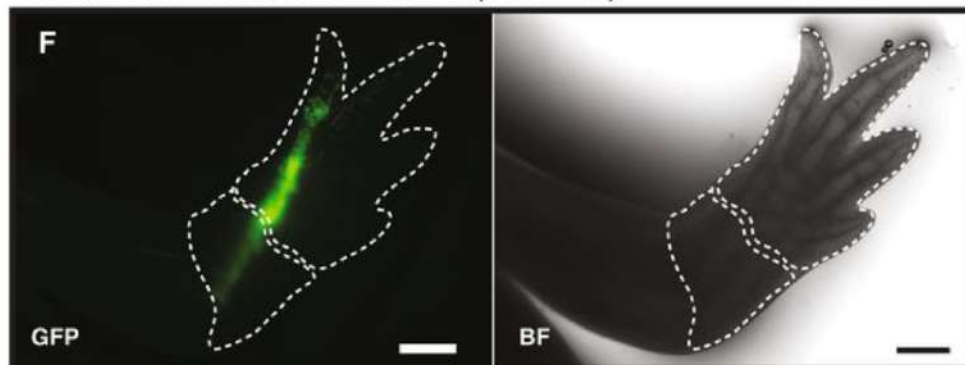
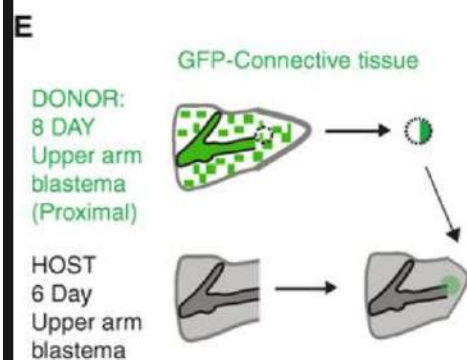
DONOR: 8 DAY HAND BLASTEMA



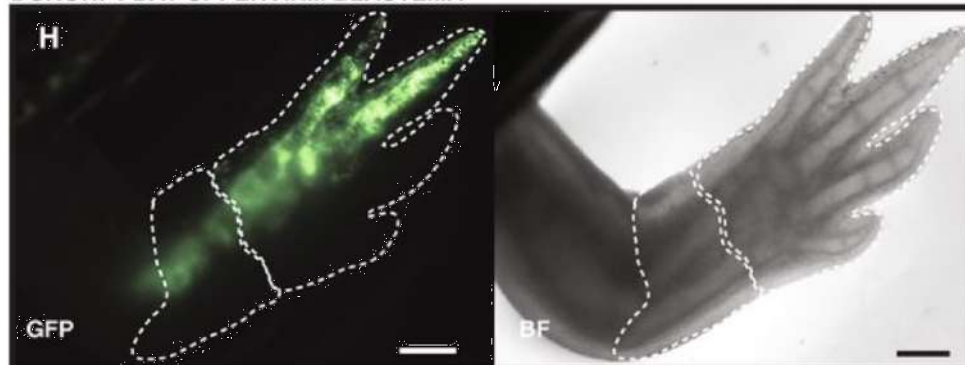
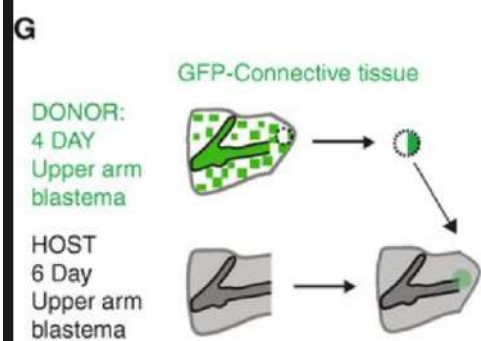
DONOR: 8 DAY UPPER ARM BLASTEMA (DISTAL)



DONOR: 8 DAY UPPER ARM BLASTEMA (PROXIMAL)

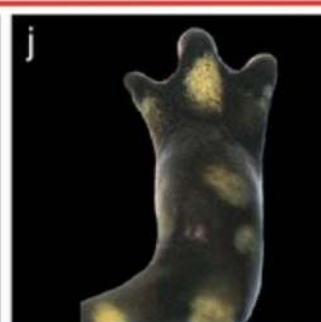
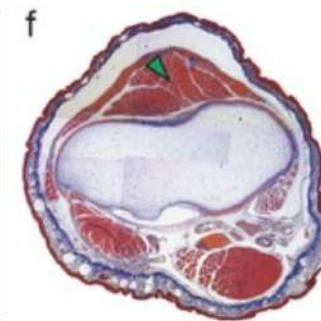
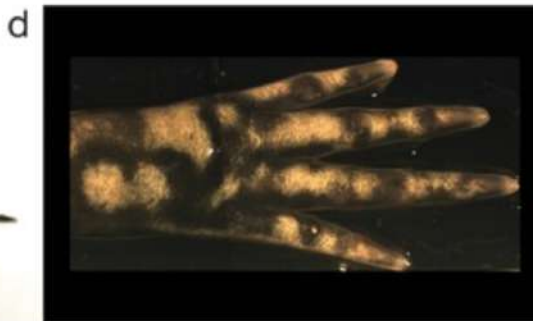
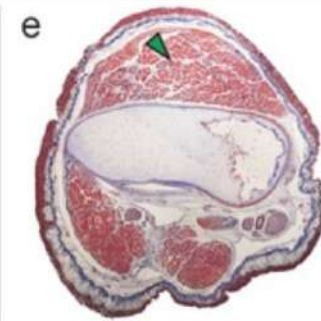


DONOR: 4 DAY UPPER ARM BLASTEMA



J

Hand BL



Blastema

Cone

Palette

Early Diff

Diff

405 days





www.yowangdu.com



Hand Mudras: How to use the Vajra and Bell



Watch later



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11:29 / 16:09



YouTube







Tibetan Buddhist ritual instruments used in offerings, including the Damaru, the Bell and the Vajra. Photo © YoWangdu.

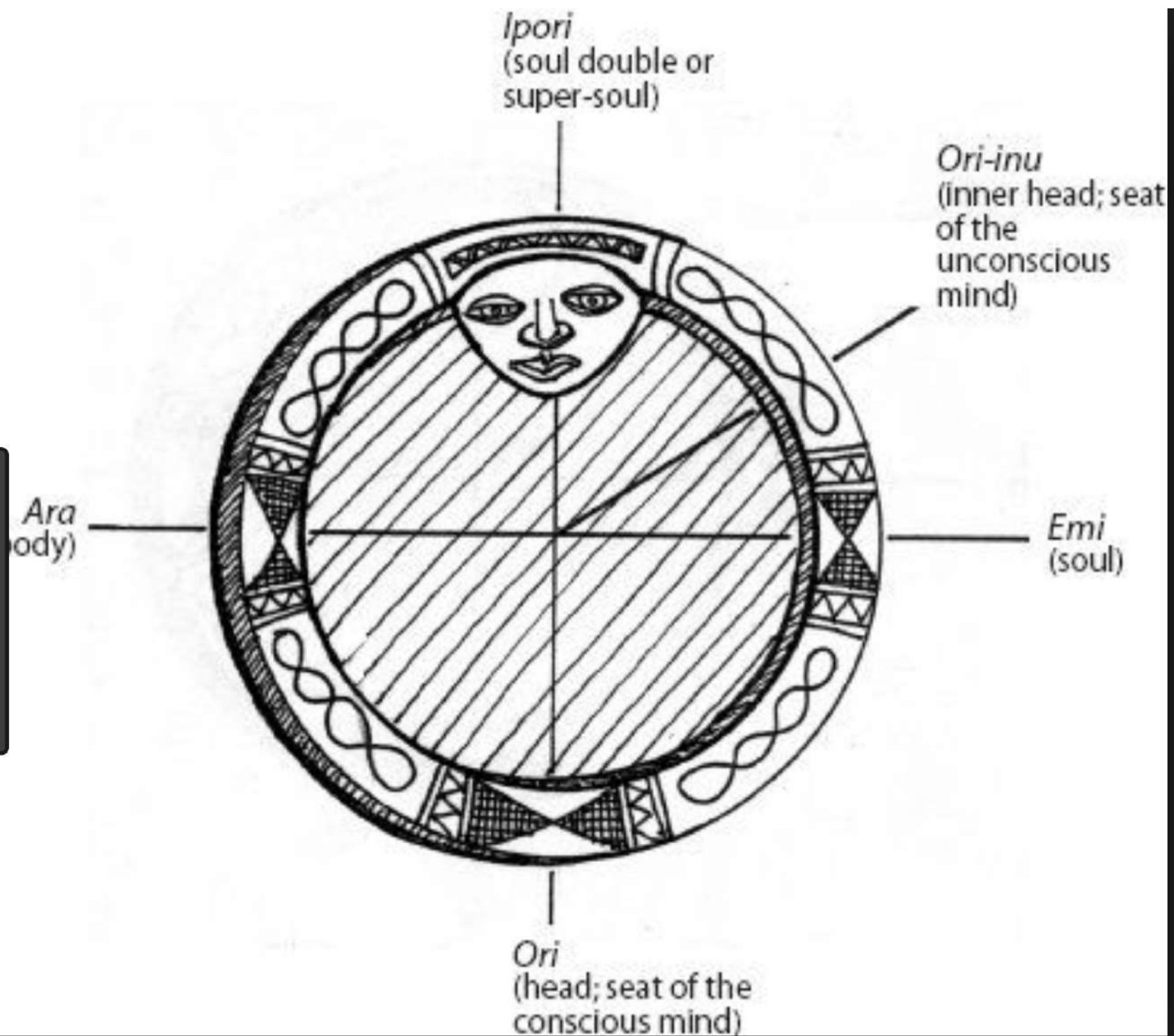














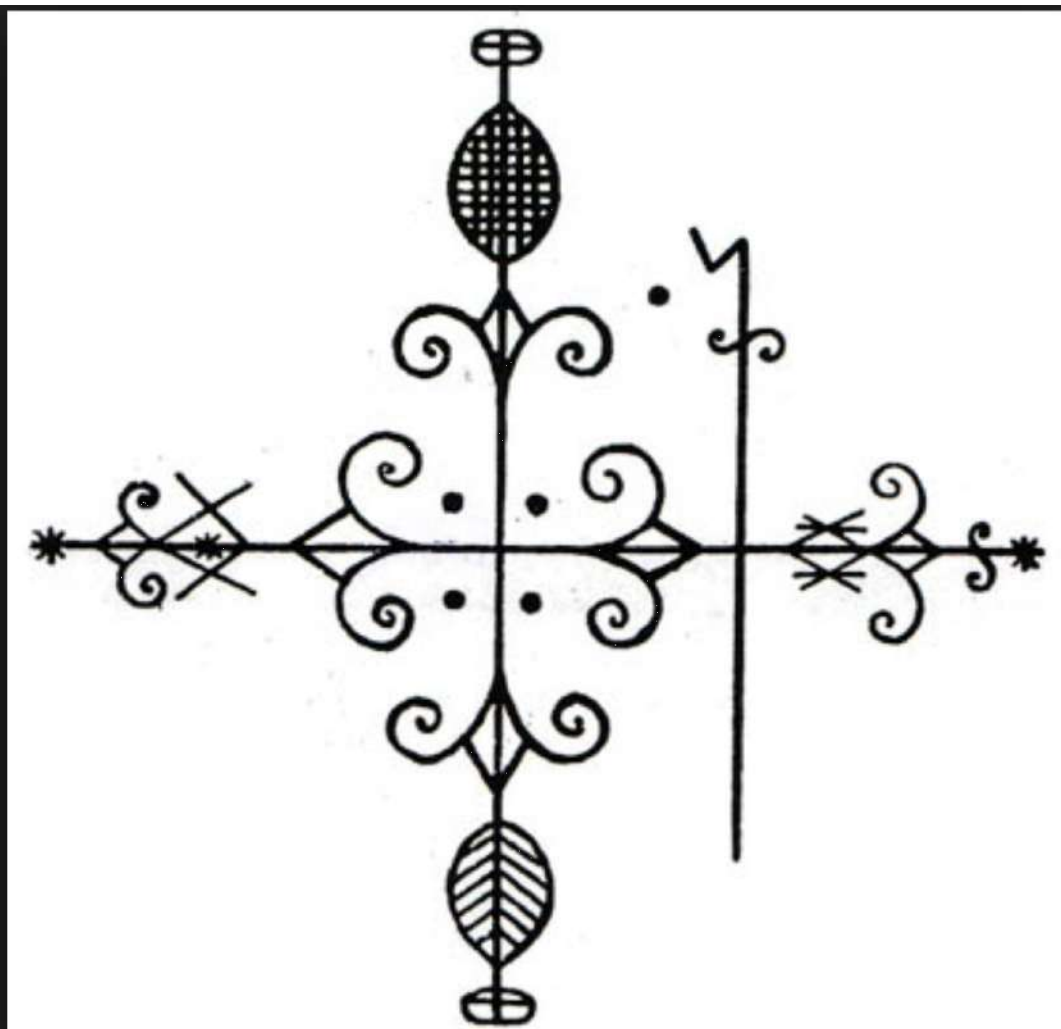
YORUBA - ODUDUWA, ORUMILA, OBATALA - ORISHA - NATURE/NETER - 3RD EYE ORUNMILA, CROWN ORI, HEART OGUN, YEMOJA WOMB, THROAT OBATALA, NAVEL OSHUN, ROOT SHANGO - OLOKUN/NEPTUNE/POSEIDON- ABORU ABOVE ABOSISE/ MY SACRAFICE HAS BEEN BLESSED AND ACCEPTED



Pl.12 Divination Tray (*opón Ifá ribiti*) Attributed to the artist Areogun (ca. 1880–1954) or his atelier, Ifá, first half 20th century
Òsì-Ìlorín, Èkìtì Region, Nigeria, Wood, 21 x 20 x 1 3/4 in.



16 COWRIE SHELLS



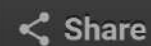
What is the difference between

Santería Church of the Orishas

Veves ...

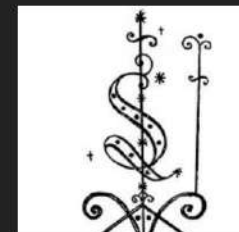
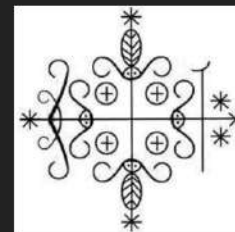
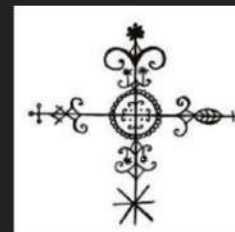
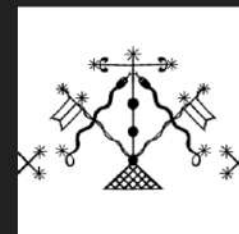
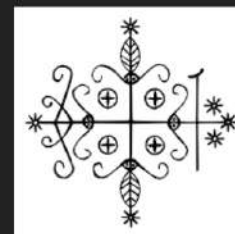
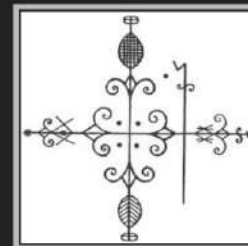


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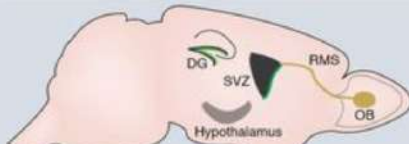
Related images:



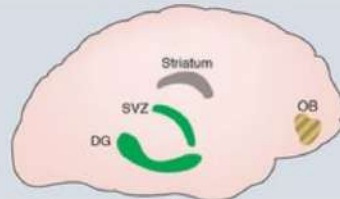
Sites of neurogenesis in the adult mammalian brain

Neural stem/progenitor cells (NSPCs) reside in the dentate gyrus (DG) and the subventricular zone (SVZ) of the adult mammalian brain (green). These cells provide a constant supply of new neurons for pre-existing neural circuits, such as the olfactory bulb (beige). Additional sites of neurogenesis appear to be comparable between the rodent and the human DG, whereas neurogenesis in the human OB is either extremely low or absent. Whether neurogenesis occurs in the human hypothalamus is currently unknown.

Mouse brain



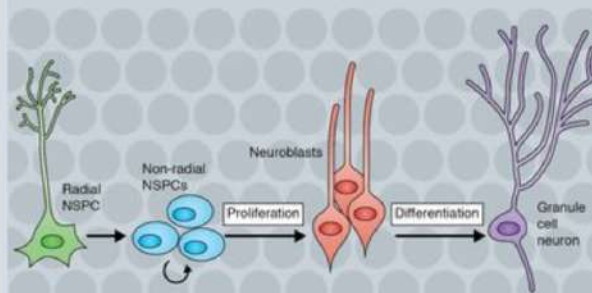
Human brain



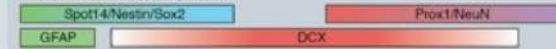
Adult neurogenic niches

Dentate gyrus (DG)

Adult hippocampal NSPCs give rise to glutamatergic granule cells of the DG via a well characterized, multistep process. Quiescent radial glia-like NSPCs enter the cell cycle and give rise to transiently amplifying non-radial glia cells. These cells go on to form immature neurons that integrate into the pre-existing neural network over the course of several weeks.

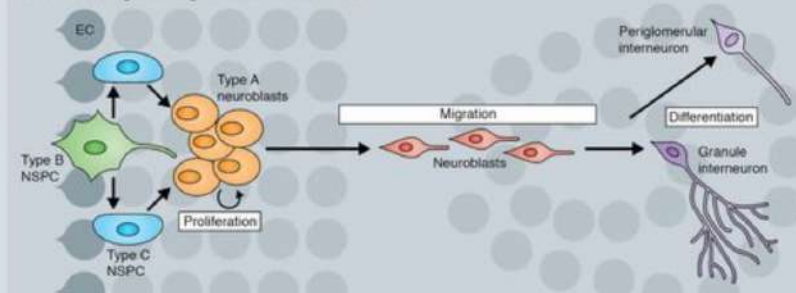


Characteristic marker expression



Subventricular zone (SVZ)

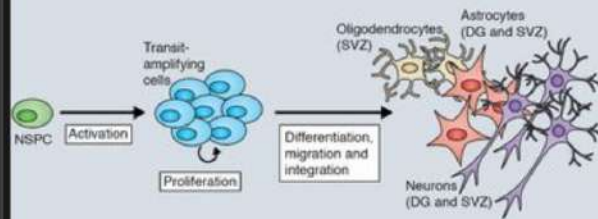
Adult SVZ NSPCs reside below an ependymal cell (EC) layer in the wall of the lateral ventricles where they contact the ventricles through long processes. These NSPCs give rise to more proliferative transit-amplifying progenitors (type C) that generate predominantly immature neurons and few glial cells. From the SVZ newborn cells migrate through the RMS towards the OB.



Characteristic marker expression



Molecular mechanisms regulating adult neurogenesis



	Activation/proliferation	Differentiation	Migration	Integration
DG	Wnt, Shh, Sox2, Notch, BMP, neurotransmitters (e.g. GABA), EGF, FGF2, IGF2, VEGF, lipid metabolism, TNF α , IL6, glutamate	NeuroD1, Prox1, Sox2, MBD1, CREB signaling, neurotransmitters, glutamate, BDNF	Disc1, Cdk5, reelin signaling	Disc1, RhoGTPases, Cdk5 neuronal activity
SVZ/RMS/OB	Wnt, Shh, BMP, Notch signaling, Sox2, EGF, FGF2, IGF2, VEGF, neurotransmitters, TNF α , glutamate, BDNF	Ascl1, Dlx2, Pax6, Gsx2, Sp1, miR-124, BAF complex, CREB signaling, neurotransmitters, glutamate	Extracellular matrix and cell-cell interactions	RhoGTPases, CREB signaling, neuronal activity

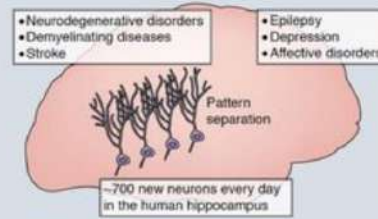
Functional significance of adult neurogenesis

Disease

Many rodent models of diseases are associated with abnormal neurogenesis, including Alzheimer's disease, Parkinson's disease, Huntington's disease, demyelinating disease, stroke, epilepsy and depression.

Memory

Newborn neurons in the hippocampus and the OB play a role in certain forms of olfactory and hippocampal learning and memory, such as DG-mediated pattern separation.



Systemic regulation of adult neurogenesis

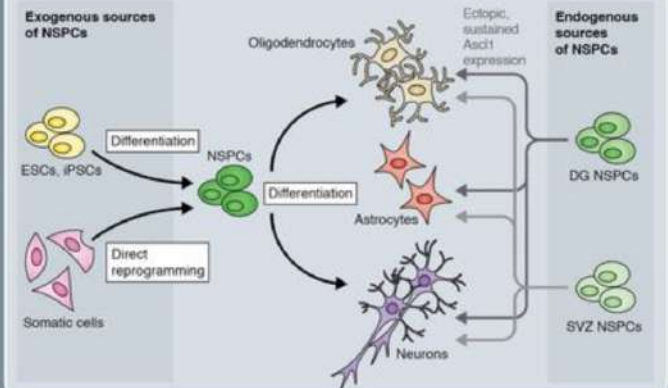
- Exercise
- Learning
- Enriched environment
- Seizures (aberrant)



- Stress
- Age
- Inflammation
- Alcohol

Cell sources for brain repair

Multipotent NSPCs offer a source of neurons, astrocytes and oligodendrocytes, which can be harnessed for brain repair. NSPCs can be generated via differentiation of pluripotent stem cells (ESCs and iPSCs) or via direct reprogramming of somatic cells, and then transplanted directly into the brain. Alternatively, NSPCs can be activated from endogenous sources within the DG and SVZ.



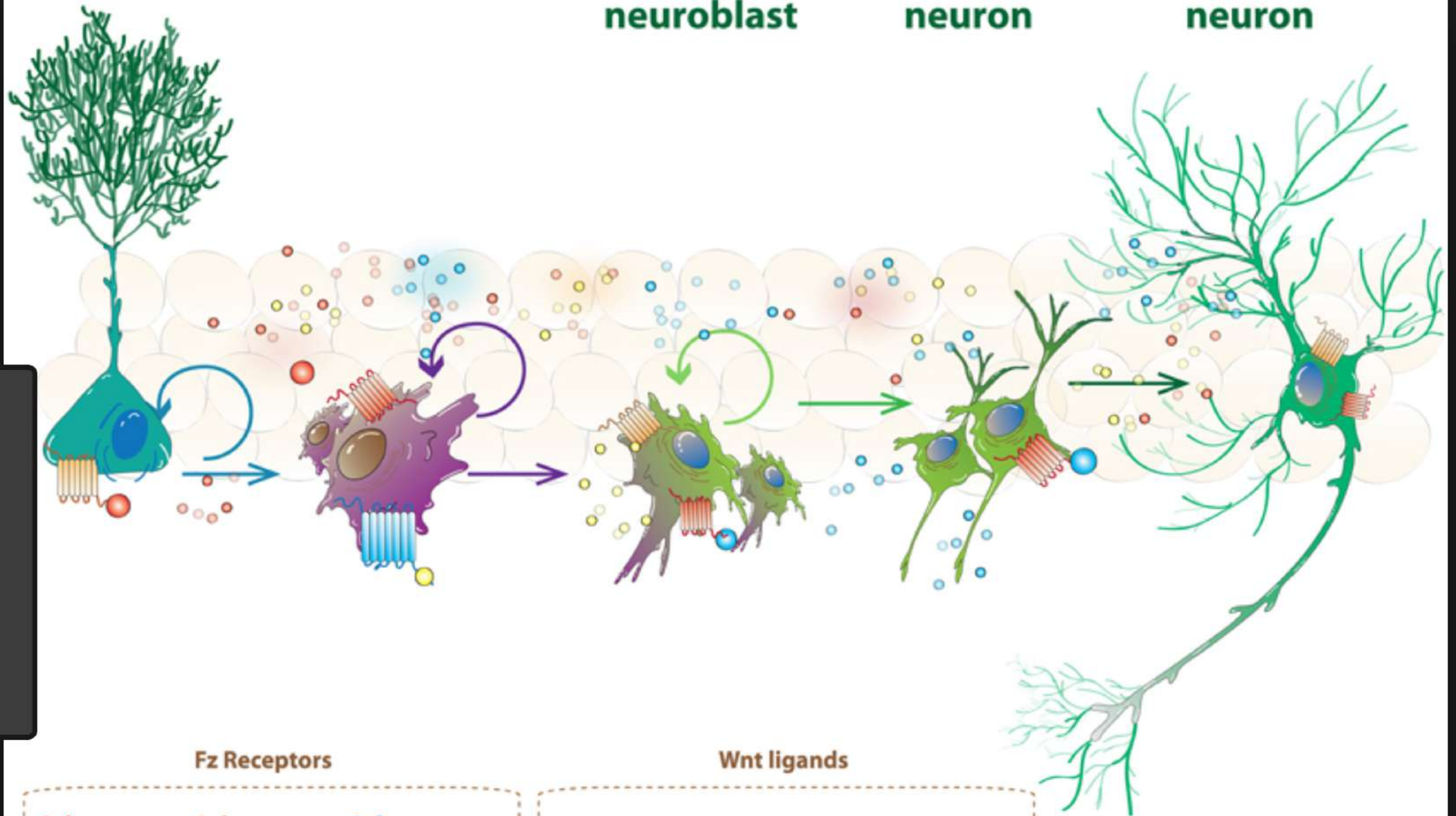
Type 1 cell

Type 2 cell

Type 3 cell
neuroblast

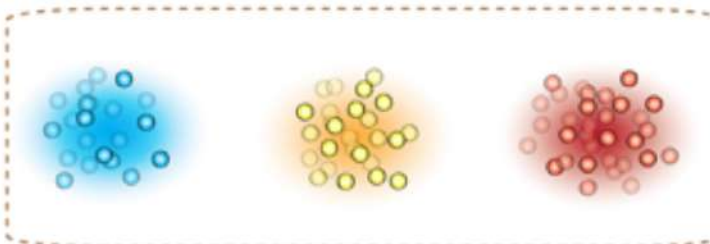
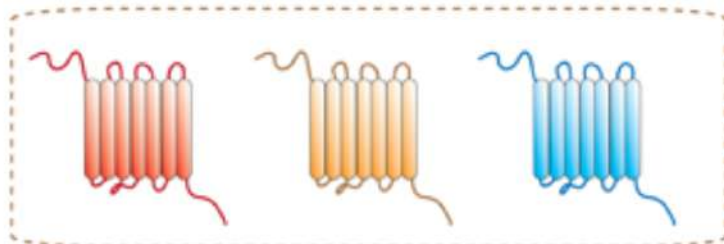
Immature
neuron

Mature granule
neuron



Fz Receptors

Wnt ligands





ter - Decoding the Antikythera Mechanism - Full Documentary HD

Up next

View

Hide case



Help



speed rotation=1.00



Movement



Reset



0:13 / 7:21

Volume=1.00

Calendar rotation=114.60

Rotation



Reset







HEALTH SYMPTOMS FROM ALL WIRELESS DEVICES

INCLUDING MILITARY WEAPONIZATION OF THE ATMOSPHERE (COMPONENT OF CHEMTRAILS)

- Confusion
- Short term memory loss
- Inability to focus
- Brain fog/sluggish thinking
- Difficulty concentrating
- Headaches
- Migraines
- Vision disruption or eye problems
- Eye pain
- Cataracts
- Head or chest pressure
- Allergies
- Difficulty breathing
- Respiratory problems
- Slow reaction time
- Sleep disruption
- Insomnia
- Night sweats
- Nightmares
- Dizziness
- Disorientation
- Balance Problems
- Agitation
- Anxiety
- Depression
- Suicide
- Tension
- Irritability
- Tremors
- Nervousness
- Seizures
- Vertigo
- Nausea or vomiting
- Flu-like symptoms
- Digestive difficulty
- Nose bleeds
- Hair Loss
- Rapid Aging/oxidative damage
- Skin problems including rashes
- Skin irritation/dryness
- White Noise 24/7
- Ringing or buzzing in ears
- Ear pain
- Tinnitus
- Bed wetting
- Urinary problems
- Behavioral problems in children
- Pets get jumpy
- Mood disorders
- Lethargy
- Exhaustion
- Chronic fatigue
- Lost productivity/sick days
- Loss of employment
- Unusual family conflicts
- Disintegrating relationships
- Disturbs Blood Brain Barrier Allowing Toxins to Enter
- organ and brain damage
- Psoriasis
- Autoimmune disease
- Lupus
- Damages mitochondria
- Free radical damage and aging
- Worsening existing poor health
- Demineralization of cells/tissue
- Impotence
- Infertility
- Birth defects
- Life span decreases by +/-8 years
- Heart Attack
- Pacemaker defibrillation
- Circulation problems
- Joint difficulty
- Muscle pain
- Fibromyalgia
- Dementia
- Personality changes
- Alzheimer's, Parkinson's, ALS
- Amyotrophic Lateral Sclerosis
- Childhood cancers increase
- Brain tumors
- Rare Deadly Brain Gliomas
- Leukemia
- Cancer
- Diabetes
- Heating beamed on humans that mimics a high fever
- Rhinitis (inflammation nasal membranes)
- Asthma
- Allergies such as hay fever
- Food allergy
- Atopic dermatitis (inflammation of the skin)
- Itching and chapped skin on the trunk
- Rheumatism (painful condition of the joints and muscles characterized pain and stiffness)
- Benign uterine fibroid tumors
- Bone loss/osteoporosis
- Dehydration
- Kidney damage
- Electronic Harassment-Stalking-Mind Control
- Controlling thoughts, Directing physical Actions, V2K Voice to Skull
 - Violent behavior
 - Autism
 - ADHD
 - Weakened immune system
 - Physical weakness or pain
 - High blood pressure
 - Leg cramps
 - Stiff neck or back
 - Shuts down the cells-cell death
 - Changes in genetic makeup
 - DNA breakage
 - EMF causes mercury dental filling vapor to leak causing



References:

*Bio Initiative Report: Over 2,000 Scientific Studies www.BioInitiative.org

*AAEM-American Academy of Environmental Medicine - Position Paper "Electromagnetic and Radio Frequency Fields Effect on Human Health", including Wireless Technologies and Smart Meters

*Department of the Army - Fort Mead "Bioeffects of Selected Nonlethal Weapons" Radiofrequency directed energy and Microwave (EMF/RF Radiation) on Targets

*NASA: the Future of Warfare Document - Page 50 - Effects of Low Power Microwaves

www.StopTheCrime.net

Electrical Sensitivity

Electrical Sensitivity (ES) is also known as Electrosensitivity, Electromagnetic Sensitivity (EMS), EMF Sensitivity, Electrical Hypersensitivity (EHS), Microwave Sickness, Radio wave sickness, Wireless Stress Syndrome and Rapid Aging Syndrome. A key determining factor in evaluating whether or not someone has ES is how they feel away from EMF and RF and whether or not their health symptoms improve with prudent avoidance.

Symptoms

The symptoms of ES vary widely with each person, depending on the strength, type and length of exposure as well as exposure to other toxins in the environment, individual constitution and basic health practices. Symptoms can be mild to severe and include: tinnitus, chronic fatigue, headaches, insomnia, concentration, memory, learning and immune system problems, dermatitis, heart palpitations, nausea, joint pain, swelling of face, neck, eye problems, rashes, and cancer.

Suggestions for Healing

Practice Prudent avoidance of electricity, electromagnetic fields and radio frequencies

Reduce or eliminate cell, cordless phone and wi-fi use (unplug and remove)

Use a corded phone and wired internet connections (confirm the DSL router is wired)

If necessary move away from high EMF or RF environment (power lines, cell towers)

Sleep in an electricity free bedroom

Sleep in a metal free bed. Consider a wool bed.

Reduce electrical exposures as much as possible (use breaker box to turn power off)

Remove dimmer switches, CFL's, fluorescent lights

Install Stetzer filters to mitigate "dirty electricity"

Use a notebook computer on battery with an external (wired) keyboard and wired mouse

Never use the computer on your lap

Work offline when possible

Have your home, car and work tested for EMF and RF ([click here](#) for a detailed review of meters to buy or rent)

Alternative health care can be very beneficial: Chiropractic, acupuncture, herbs, massage.

Eat fresh local organic foods.

Follow all rules for basic good health and take it slow: Healing comes with time and distance

Work with policy makers to create responsible public policy to reduce EMF and RF in the environment.

Mast-Victims.Org an online community where people "living under the threat of masts and antennas can record their case histories and share their thoughts online."

Radiation Research Trust EHS TEST

Electrical Sensitivity E-SENS online discussion group

Susan Parsons: "Living with Electrohypersensitivity-A Survival Guide"

Lucinda Grant: Electrical Sensitivity Handbook

Sarah Dacre electro-sensitivity story

Katie Hickox EHS story

EMF Electrician Michael Neuert: "Electromagnetic Fields and Your Immune System"

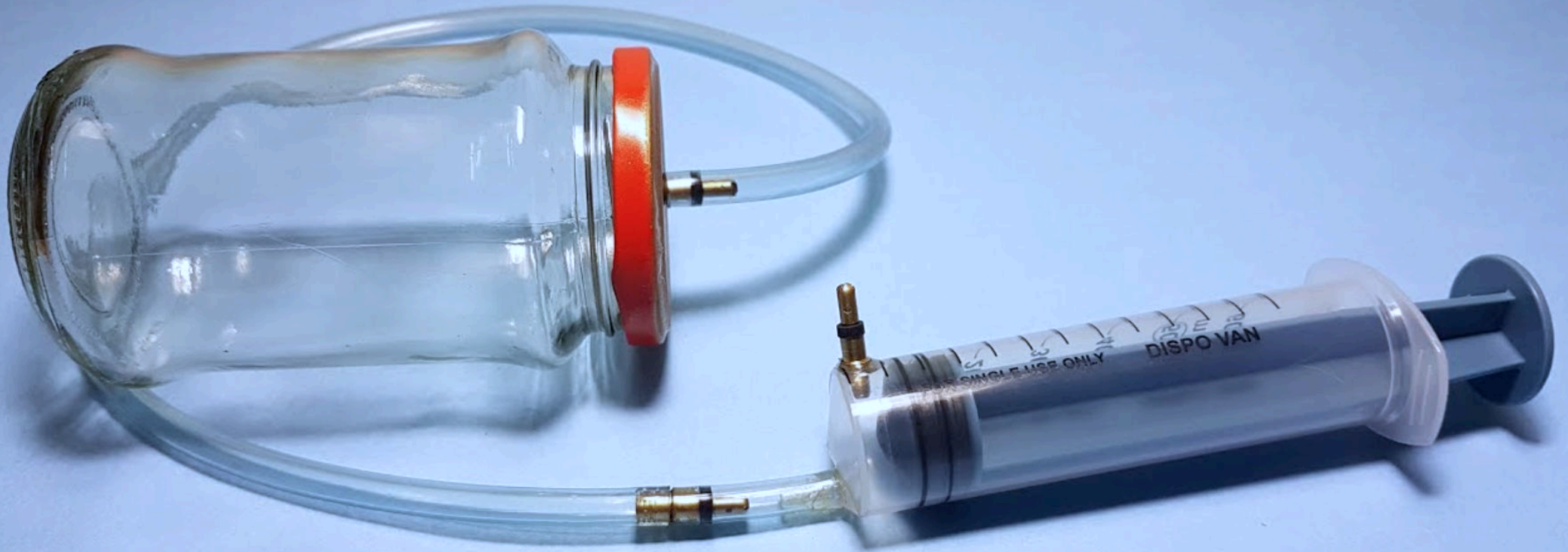
Dr. Christine Aschermann: "Observations from a Psychotherapy Practice on Mobile Telecommunications and DECT Telephones" Aschermann2009

Forced to Disconnect – Electrohypersensitive fugitives e book by Gunilla Ladberg

Go to the EMF Tab of SmartMetersMurder.com for the various links on this page

Watch - The Cooking of Humanity

www.StopTheCrime.net



Vacuum Pump

VACUUM PUMP AND VACUUM CHAMBER

Abstract—Researchers are working on making electronic skin more sensitive to mimic human skin. They are also working on making it flexible to use around joints without damaging the electronics. They are creating different uses for electronic skin as well.

I. INTRODUCTION

ELECTRONIC skin is a thin material that contains electrical components that acts like real skin in one or more ways. Some of the things skin can do are sense temperature and pressure, stretch, and repair itself. The goal for electronic skin is to be able to do all of these.

The University of Tokyo made a type of electronic skin that wrapped around a robotic hand. They thought that if a human shook hands with the robot wearing the electronic skin, the pressure and temperature senses could pick up their vital signs. Then they started working on making electronic skin for humans. Electronic skin could monitor medical conditions, or be used on prosthetics to make them more sensitive. Their biggest problem was getting the electronic skin to stretch over joints like elbows and knees without damaging the electronics within it. Their goal is to create large amounts of electronic skin economically and make it so it can mimic real skin. They have not been able to do all of this yet.

II. METHODS

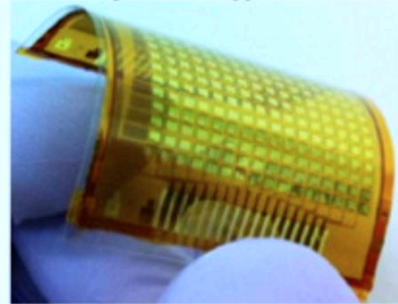
One of the first steps in making electronic skin is making the components flexible. They need to be able to bend, similar to how wires can bend. One component that is used in making electronic skin is thin film transistors (TFTs). These TFTs can be made of different materials like silicon, organic semiconductors or carbon nanotubes. They are made by putting thin layers down at a time. The piece these TFTs are printed onto can be made of ultrathin glass, stainless steel foils, and plastic films.

Scientists experimented on these different materials, and determined that plastic films could be a practical option. Plastic films are tough and they do not change shape under stress. They are inexpensive, and can be used with new manufacturing processes that can make large sheets of electronics. If they were going to print TFTs on plastic film, they need to keep the temperature low to prevent the plastic from changing shape. Using organic semiconductors for the TFTs would be best, because they can be printed at room temperature.

III. RESULTS

Researchers at the University of California, Berkeley, have developed an electronic skin that responds to pressure by producing light from an LED. It is 16 by 16 pixels, and each pixel has a carbon-nanotube thin-film transistor, a pressure sensor, and an organic light emitting diode (OLED). When it

senses pressure, the TFT lights up the OLED, and it will produce a blue, red or green light. The intensity of the light depends on how much pressure is applied.



They made organic transistors and sensors on an ultrathin polymer sheet that is 1 micrometer thick. This material can bend, crumple, and stretch up to 230 percent. It will still work at a high temperature and in aqueous environments, including saline solutions, so it could be used inside the human body.

Researchers have also created a type of electronic skin that could stick to skin like temporary tattoos. The circuit gets transferred onto a water soluble plastic sheet, and then gets put onto the patient and it can be used to help doctors monitor vital signs without wires and contact pads. They were able to successfully use this design on the throat, and the sensors pick up the muscle activity used when speaking, and the researchers were able to identify some words the person said.

IV. DISCUSSION

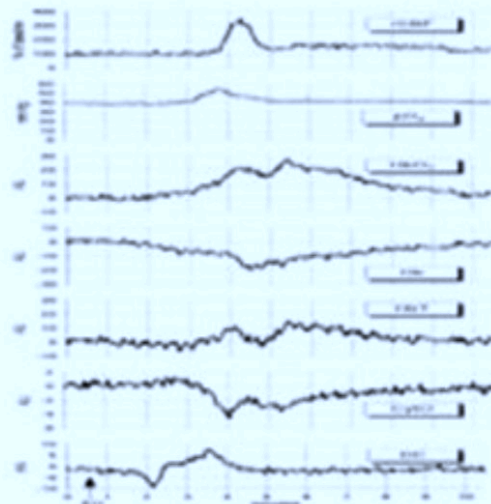
In the future, there are many ideas for potential uses for electronic skin. One of the ideas is wearing the electric skin on the wrist with the sensors facing the skin to monitor pulse and blood pressure. The sensors could be facing away from the skin and be sensitive enough to sense a fly on the sensors or a light breeze. Electronic skin could also be light sensitive or have ultrasonic detectors in it. One idea researchers had was covering a robot in this ultrasonic skin that could analyze its surroundings, and it would be able to measure the distance between the robot and obstacles around it, so it will not crash into anything. If they used this on prosthetics, they could be hyperaware of things around them. They also had an idea of being able to charge a prosthetic by resting it on a charger.

REFERENCES

- [1] "Bionic Skin for a Cyborg You." - *IEEE Spectrum*. Web. <<http://spectrum.ieee.org/biomedical/bionics/bionic-skin-for-a-cyborg-you>>.
- [2] "Electronic Skin Lights Up When Touched." - *IEEE Spectrum*. Web. <<http://spectrum.ieee.org/biomedical/devices/electronic-skin-lights-up-when-touched>>.
- [3] "Electronic Skin." *Wikipedia*. Wikimedia Foundation, 11 Sept. 2013. Web. <http://en.wikipedia.org/wiki/Electronic_skin>.

Brain Computer Interfaces – SCP BCIs

- detection of slow cortical potentials (SCPs)
- needs DC EEG Amplifiers
- first successful device end 1990's:
Niels Birbaumer's Thought translation device
intensive training was necessary to gain
control over the SCP waves

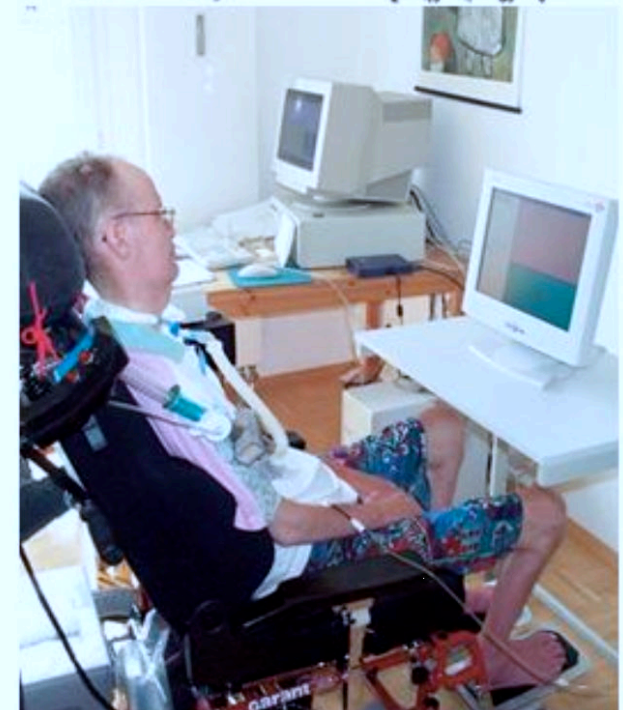
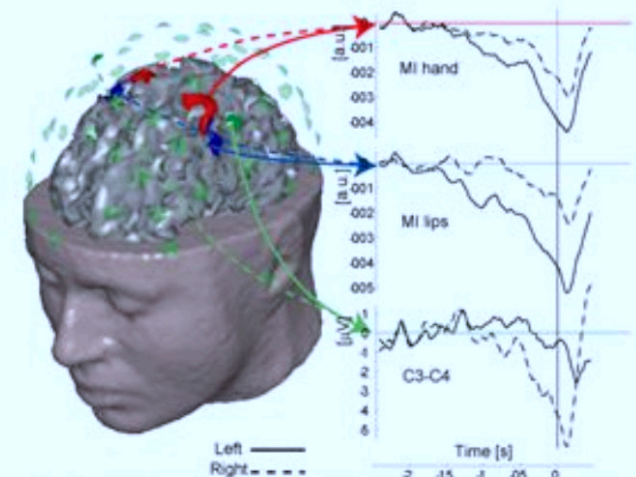


SCPs:

DC-shifts, slow negativation
of cortical areas

Preparation of movement
and cognitive tasks,

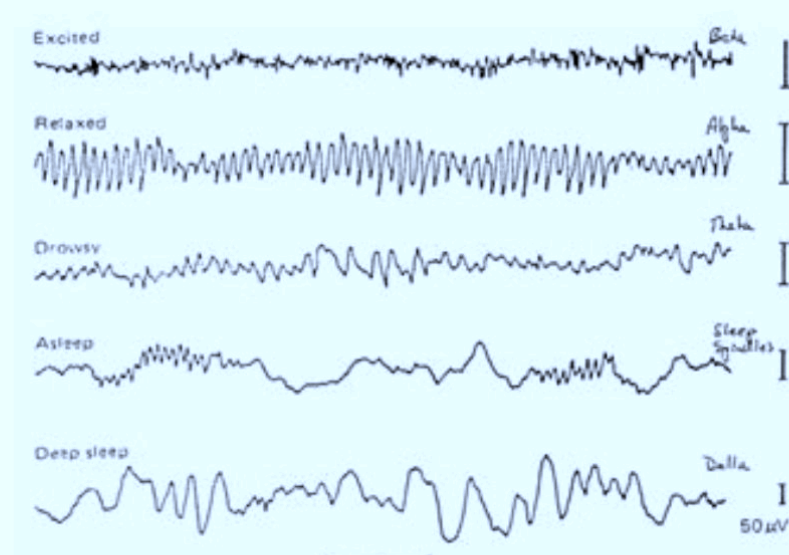
Several hundred milliseconds
before the task



Patinet using TTD to write a letter
<http://www.heise.de/ct/06/18/088/bild1.jpg>

1. EEG-Based Systems

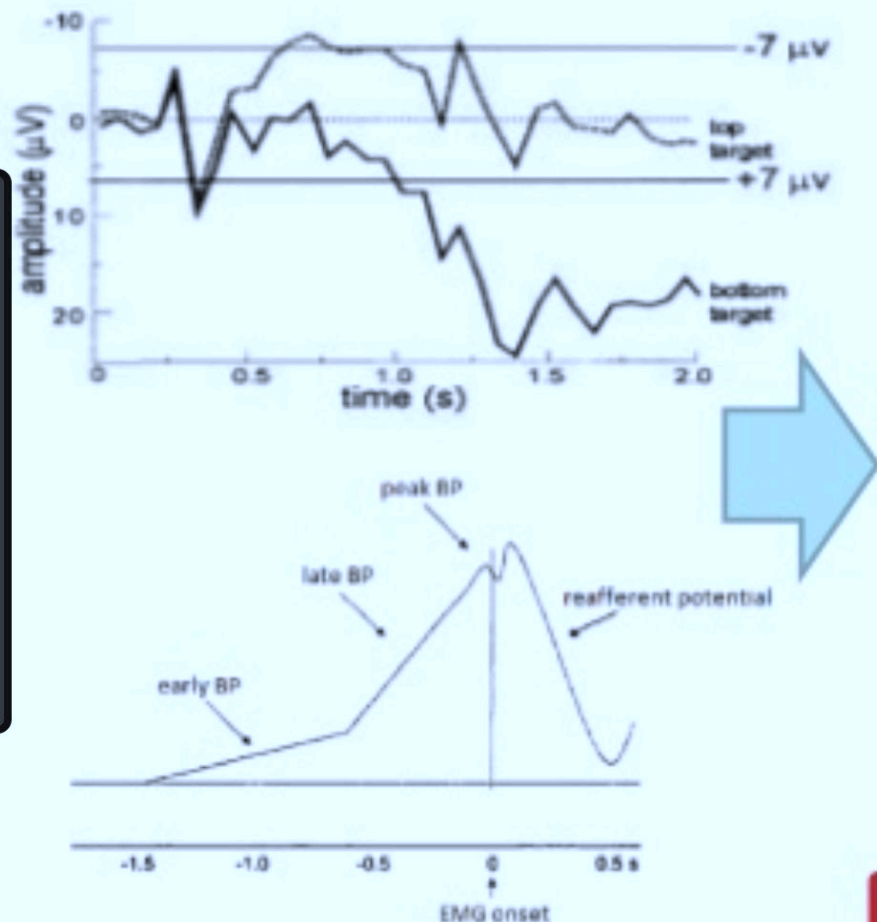
- BCI experience has been limited to EEG recordings
- Studies have investigated the use of **sensorimotor rhythms**, **slow cortical potentials** and **P300 evoked potentials**



MOTOR IMAGERY CORRELATES IN EEG

SLOW CORTICAL POTENTIALS [Kornhuber and Deecke (1965)]

SLOW CORTICAL POTENTIALS

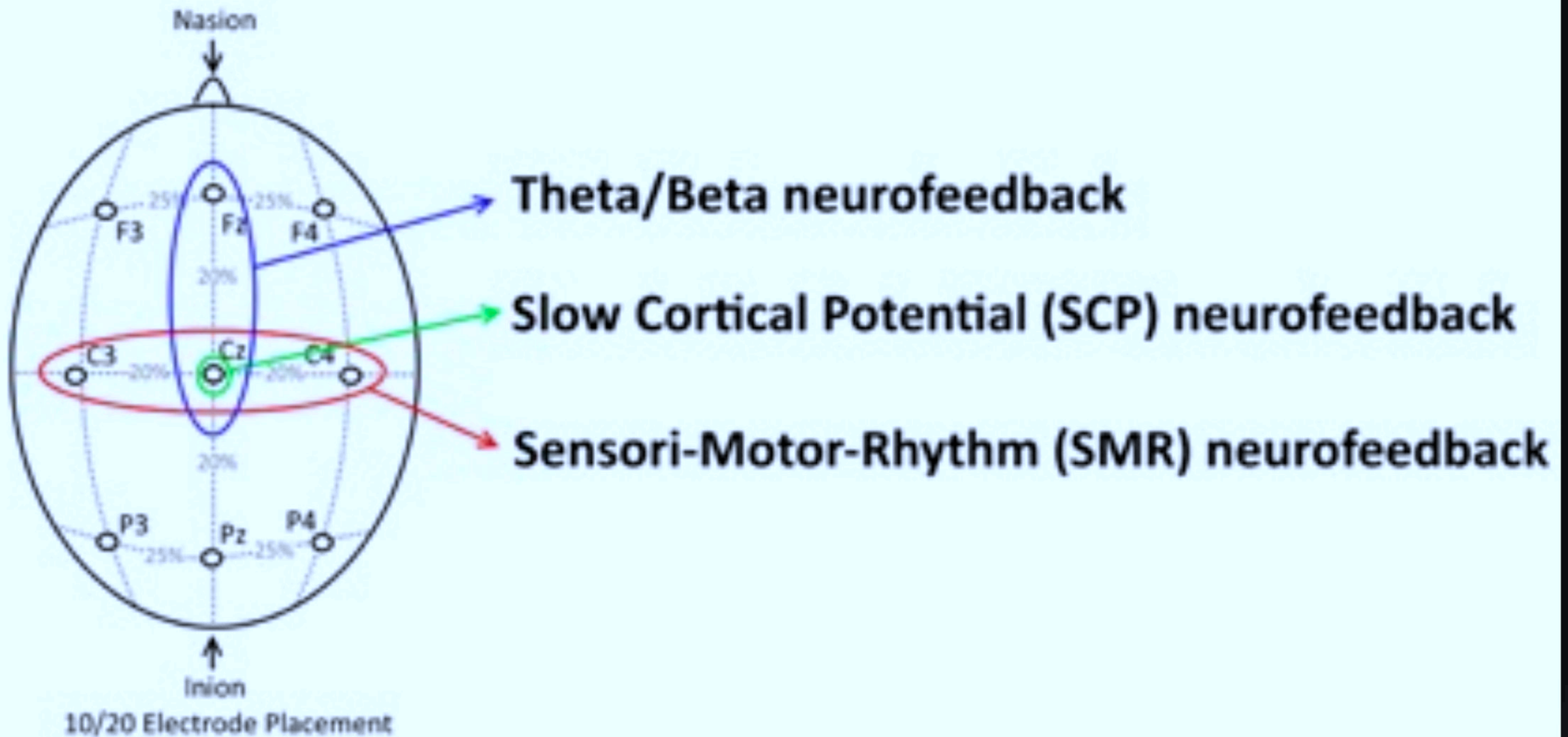


- Known as Bereitschaft Potential (readiness potential) or Movement Related Cortical Potentials (MRCPs).
- Slow oscillations preceding the movement
- Localized over the supplementary motor area (SMA)
- Steps for MRCP detection
 - Spatial filter,
 - LP frequency filter
 - Template extraction from the training data
 - matching with the ongoing eeg

• Frequency close to the DC -> very

challenging to detect in single trial

'STANDARD' NEUROFEEDBACK PROTOCOLS



Connecting the hardware

1. Connect the SCP Sensor for SCP to input A&B of the NeXus. Connect the EXG Sensor for EOG to input CD of the NeXus. Connect the Ground Sensor to the left input, labeled Gnd.
2. Snap the appropriate electrodes into the red and black connectors of the SCP Sensor. See the following overview.

Red: Positive (active) input: Channel A & B
 Black-1: Negative (reference) input: Channel A
 Black-2: Negative (reference) input: Channel B

3. Snap the appropriate electrodes into the red and black connectors of the EXG Sensor. See the following overview:

Red-1 and Black-1: Vertical EOG (VEOG; required): Channel C
 Red-2 and Black-2: Horizontal (HEOG; optional): Channel D

Electrode placement

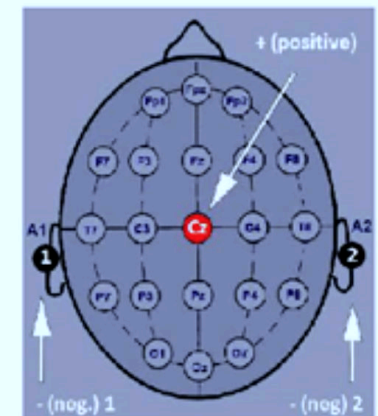
SCP electrodes: The NeXus SCP cable is placed on the head using sintered electrodes, with the RED electrode on Cz, the Black electrode (marked with 1) on the LEFT earlobe or mastoid, and the Black electrode (marked with 2) on the RIGHT earlobe or mastoid. The ground electrode can be placed anywhere on the body, for instance on Fz/FPz.

VEOG electrodes: Place the red-1 (positive) electrode above the eye and the black-1 (negative) electrode below the eye.

Mounting the electrodes

SCP electrodes: When monitoring DC-EEG signals there will always be some level of DC-drift. If this stays within an acceptable range, it does not have to be a problem. In order to reduce DC-drift: we always advise to use sintered Ag/AgCl electrodes for DC-EEG and SCP applications and do good skin preparation.

1. Before attaching the electrodes, perform good skin preparation to peel off excess dead skin cells from the scalp. This will lower the skin resistance (or DC-offset). Use an abrasive gel, like NuPrep, for this. Rub it lightly over the skin (e.g. with a cue tip). Remove excessive gel with a clean gauze pad.
2. To adhere the electrode to the skin and to support the skin conductance, apply some electrode paste to the electrode, using chloride based conductive gels/paste like Ten20 or ECI-gel.
3. Press the electrode firmly onto the skin at the site of interest.



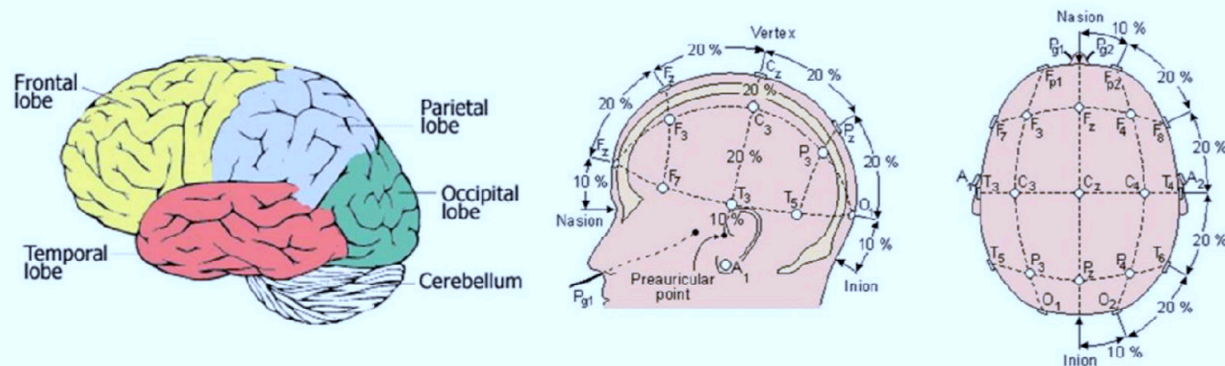


Figure 2. Identifying parts of the brain and location of electrodes in the International System 10-20 EEG Companies¹⁴.

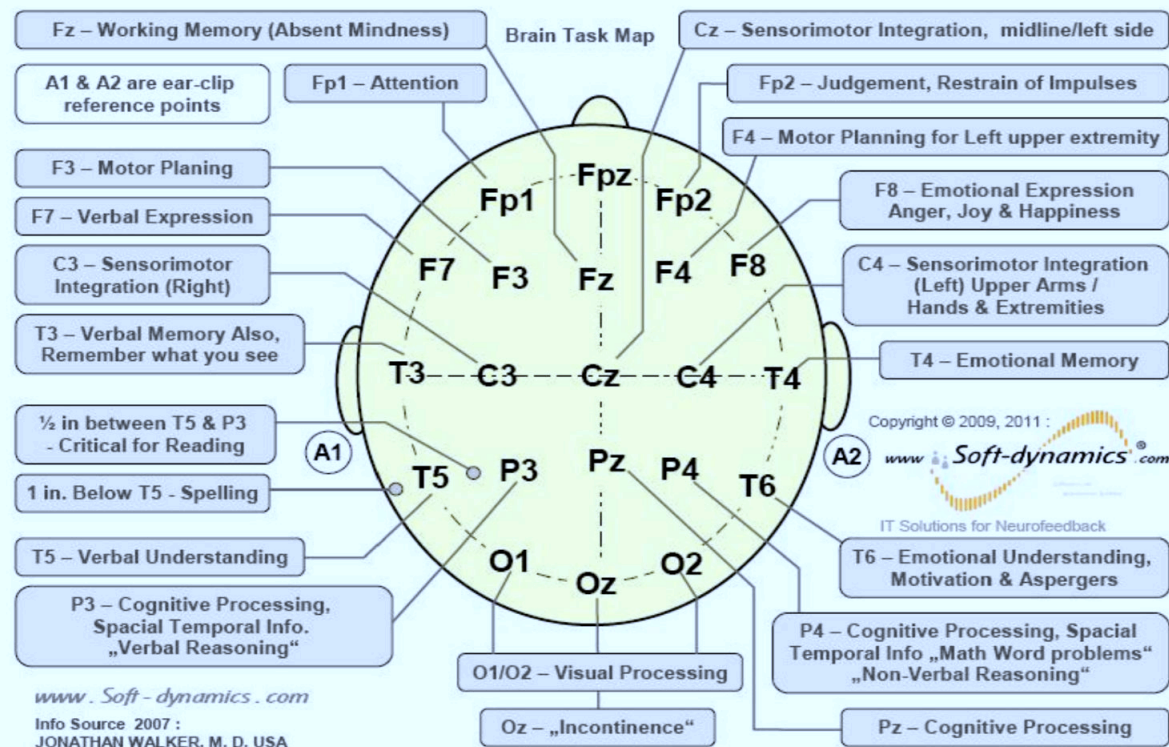
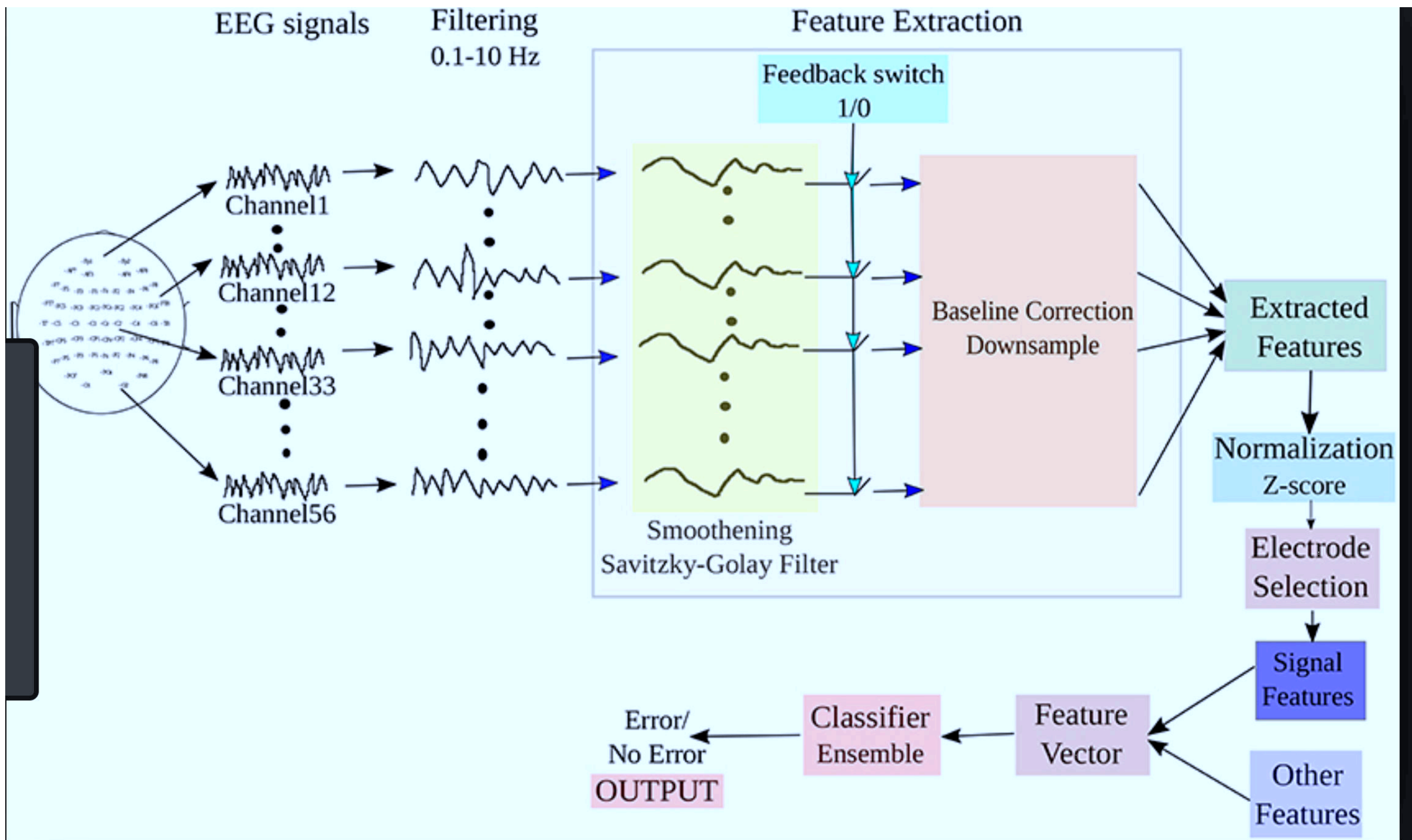
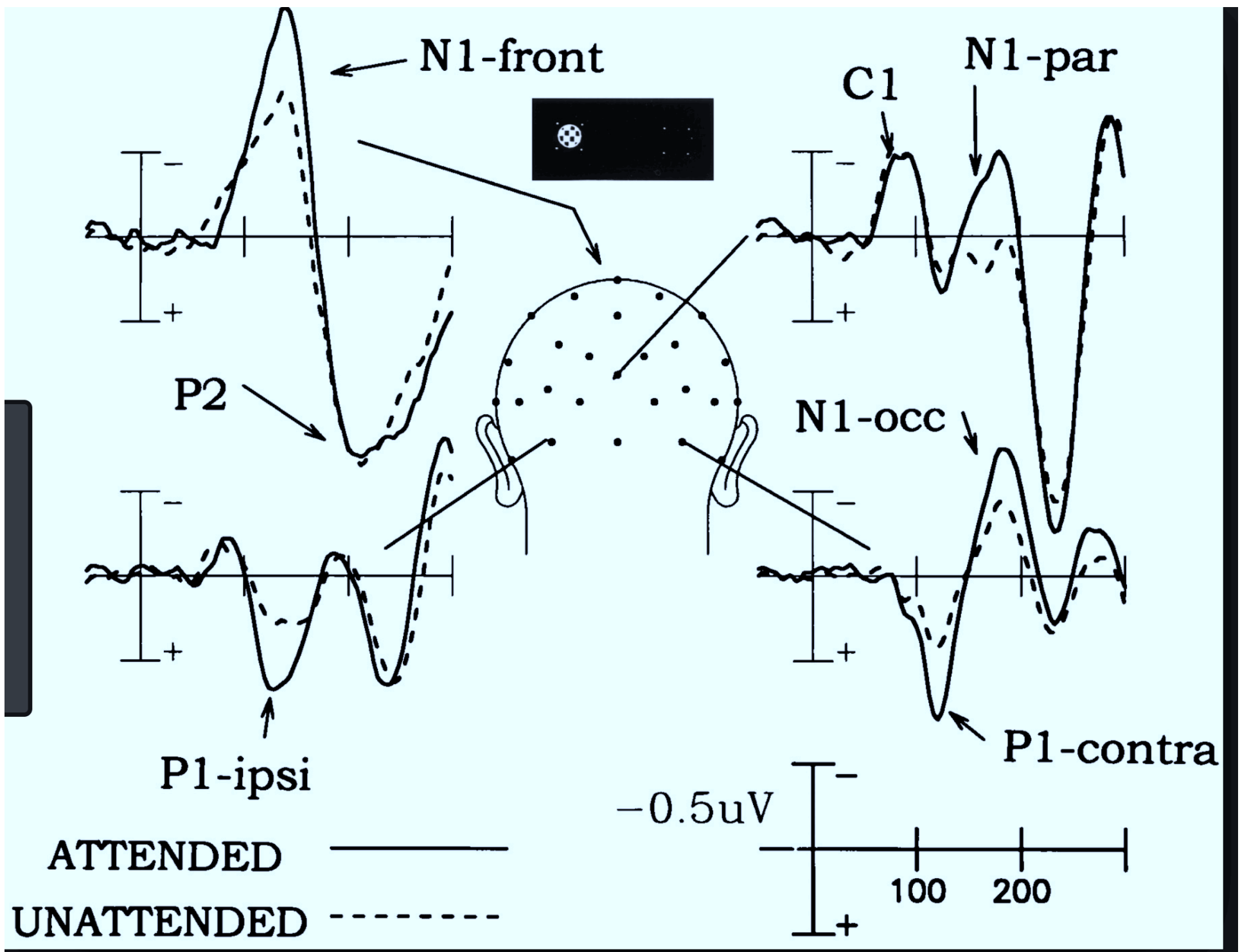


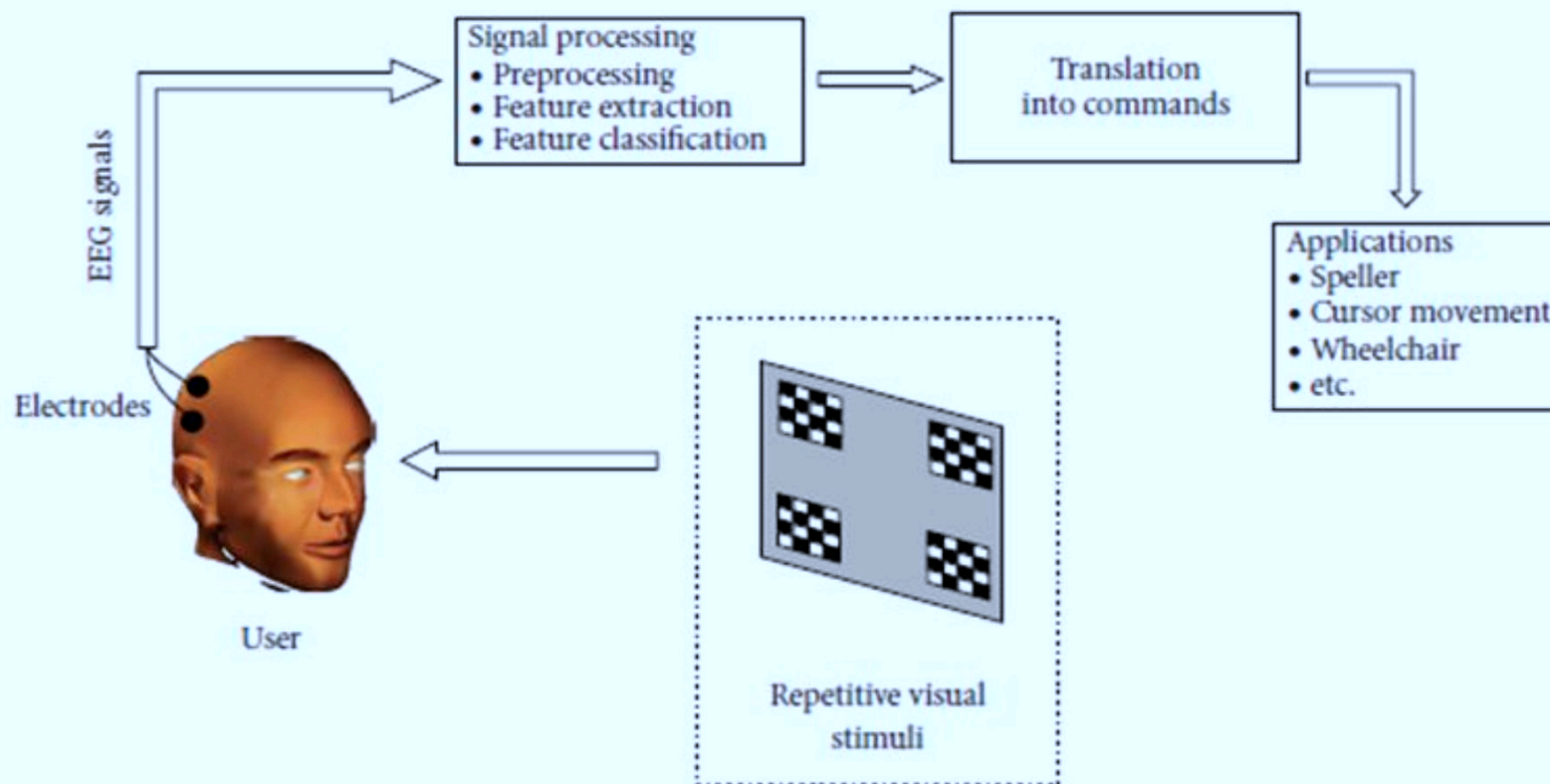
Figure 3. Identification of electrodes international 10-20 system and Map of brain activities with the location of the electrodes on the scalp¹⁸.





Steady-state Visual Evoked Potential (SSVEP)

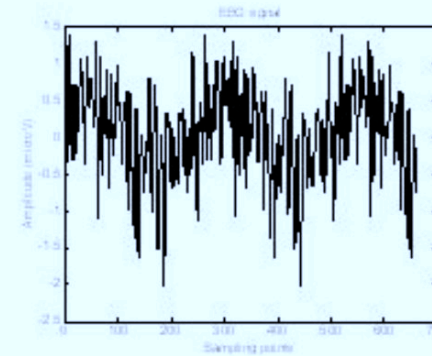
SSVEP is an EEG signal response to the flickering visual stimulus with a frequency higher than 6 Hz [1]



Examples of biological signals

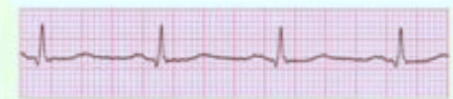
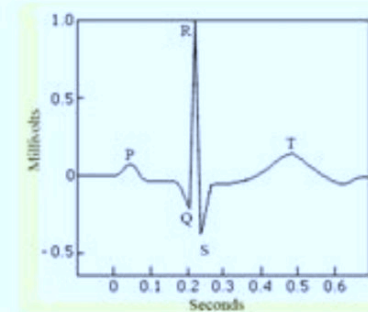
□ EEG

- Oscillating electrical potentials recorded from the scalp surface.
- Very small in amplitude (μV range).
- Generated by neuronal activations in the brain.
- Evoked potentials – a specific type of EEG evoked during a stimulus like visual, auditory, etc.



□ ECG

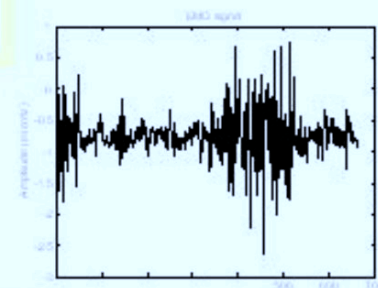
- Electrical potentials recorded from the chest (mainly), arms, legs.
- Generated by electrical activity of the heart, which results in heart pumping blood



ECG pictures from S.K.Mitra, DSP 3e

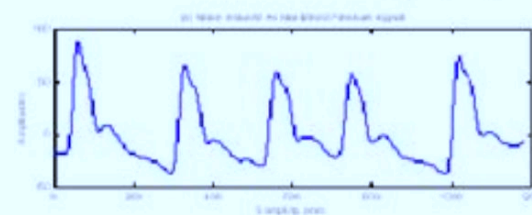
□ EMG

- Electrical potentials recorded from the skin.
- Generated by skeletal muscle activity.



□ ABP

- Pressure recorded on the upper arm (units-mmHg)
- Generated by changes in blood pressure



Visual Evoked Potential (VEP)

Visual acuity = the ability to see fine detail and patterns

A 'visual evoked response' (VER) or 'visual potential test' is a record of the electrical activity in the brain as a response to stimulation of the retina.

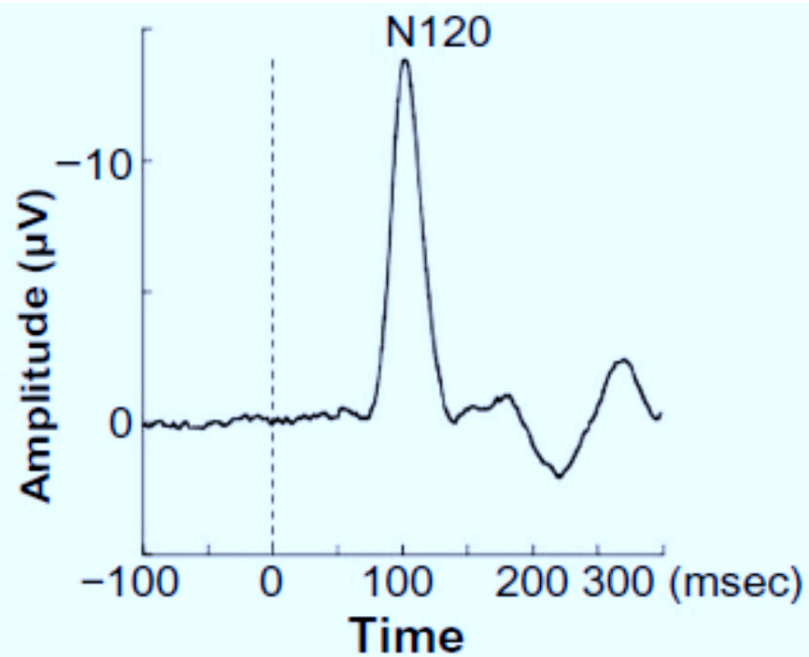
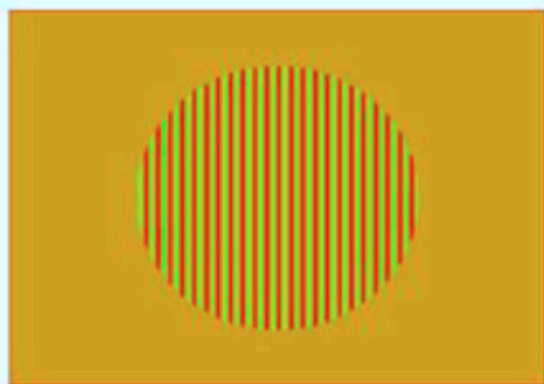
These signals are recorded with electrodes lightly attached to the scalp at the back of the head while the child watches patterns on a computer screen.



measures the response of the brain to alternating black and white stripes or checks.

designed to find the finest black and white stripes that reliably produce a response

A Chromatic stimulus

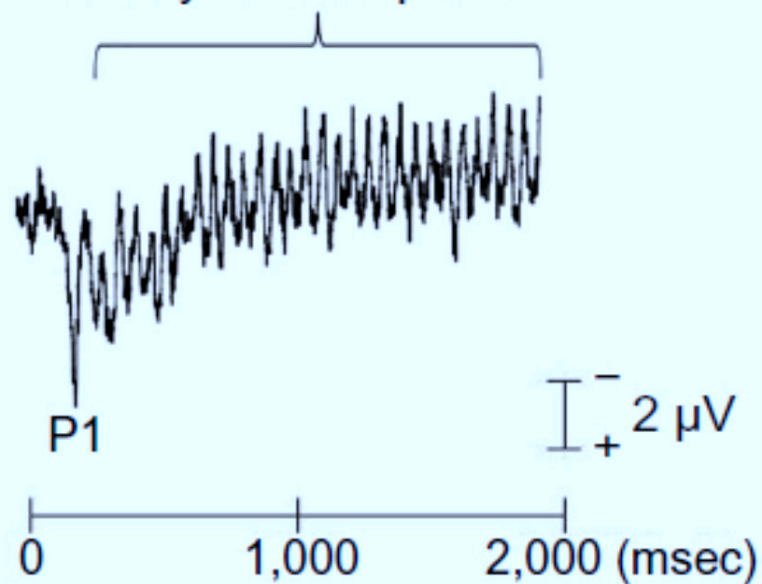


Achromatic stimulus

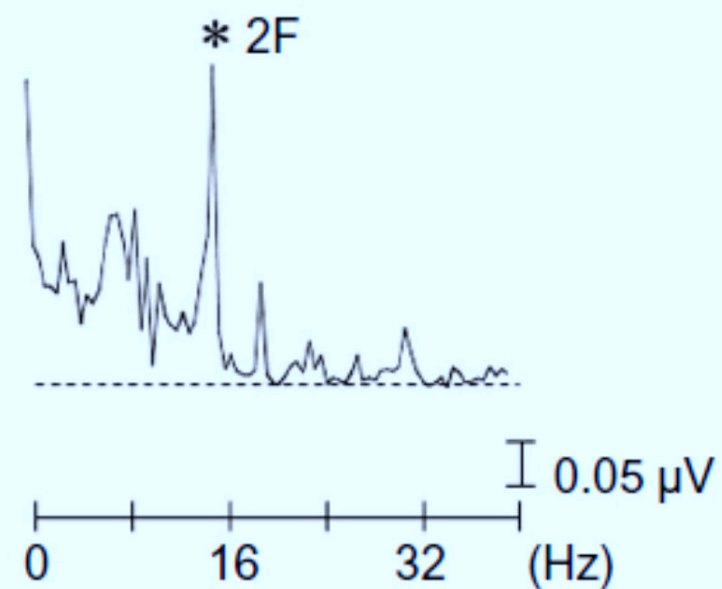


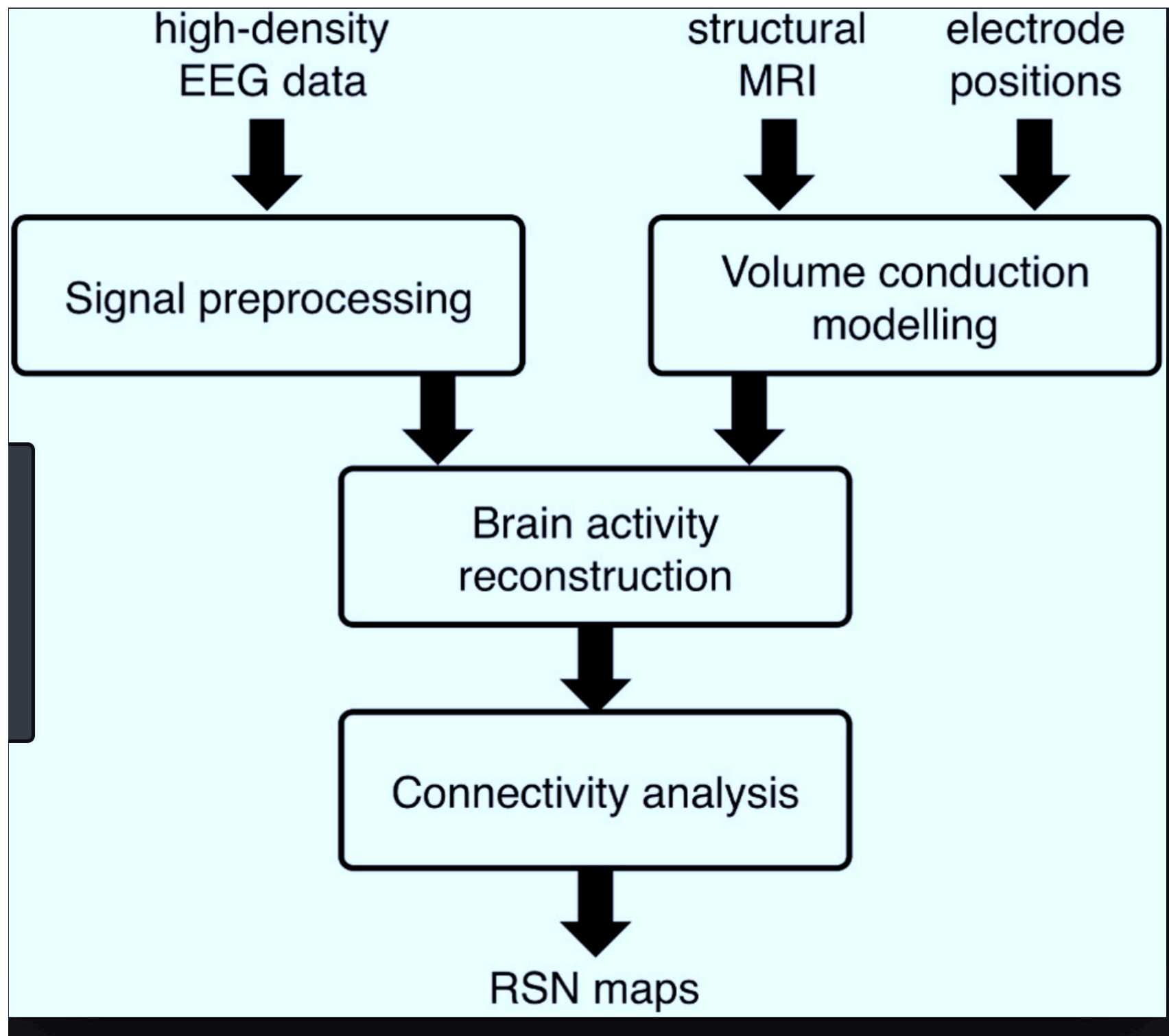
Waveforms

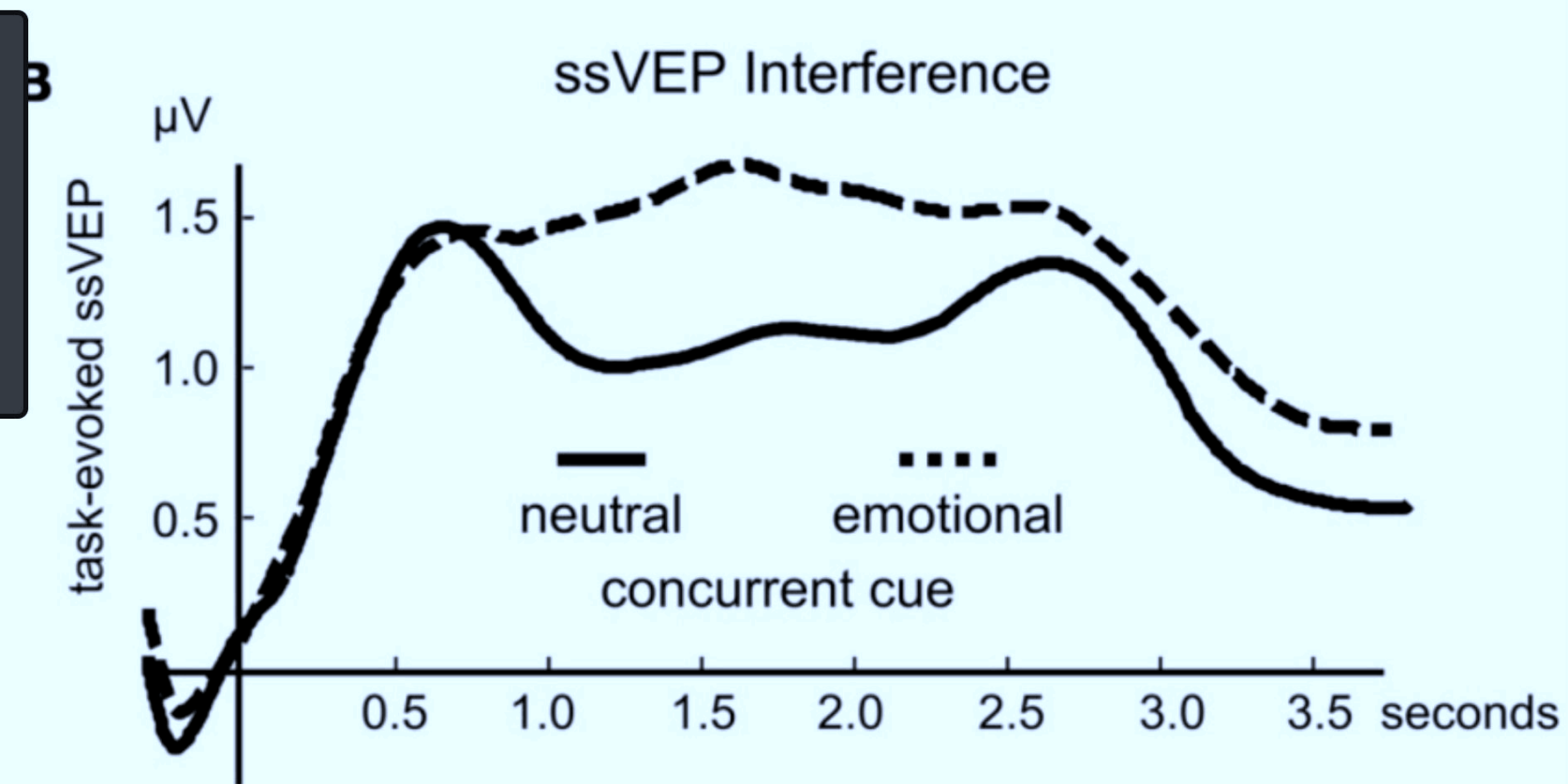
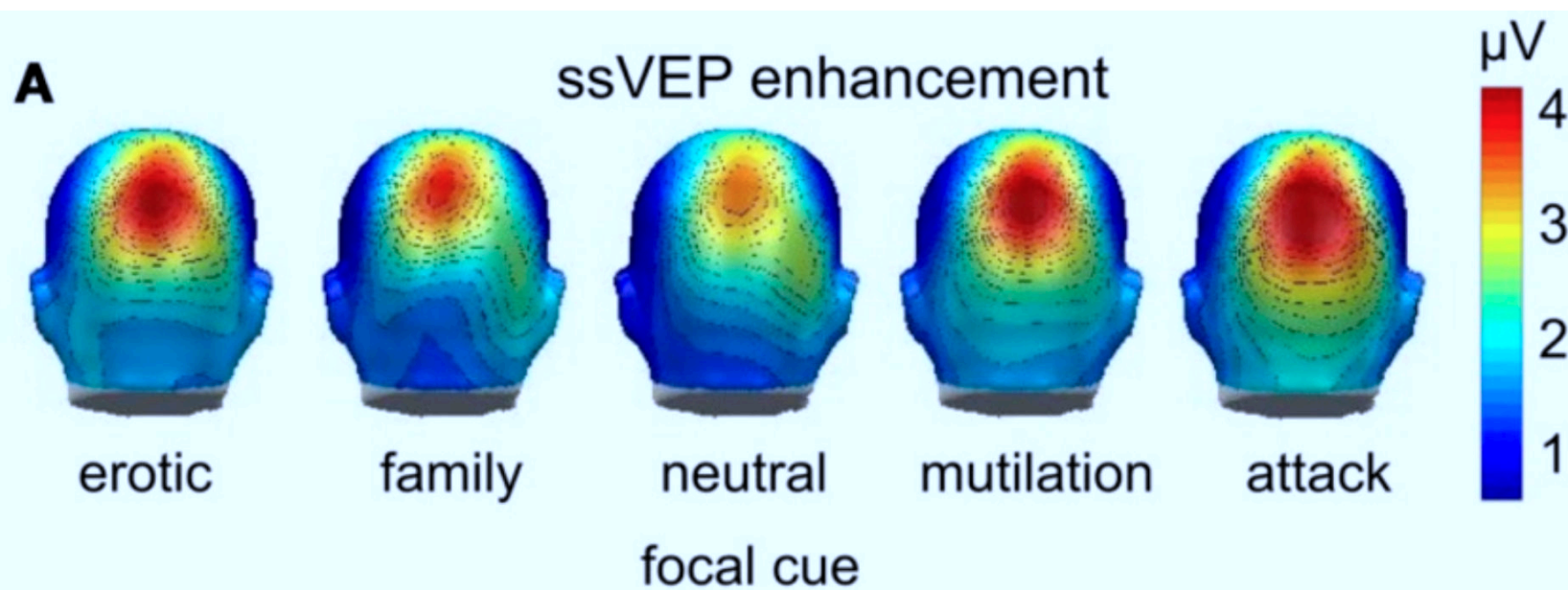
Steady-state responses

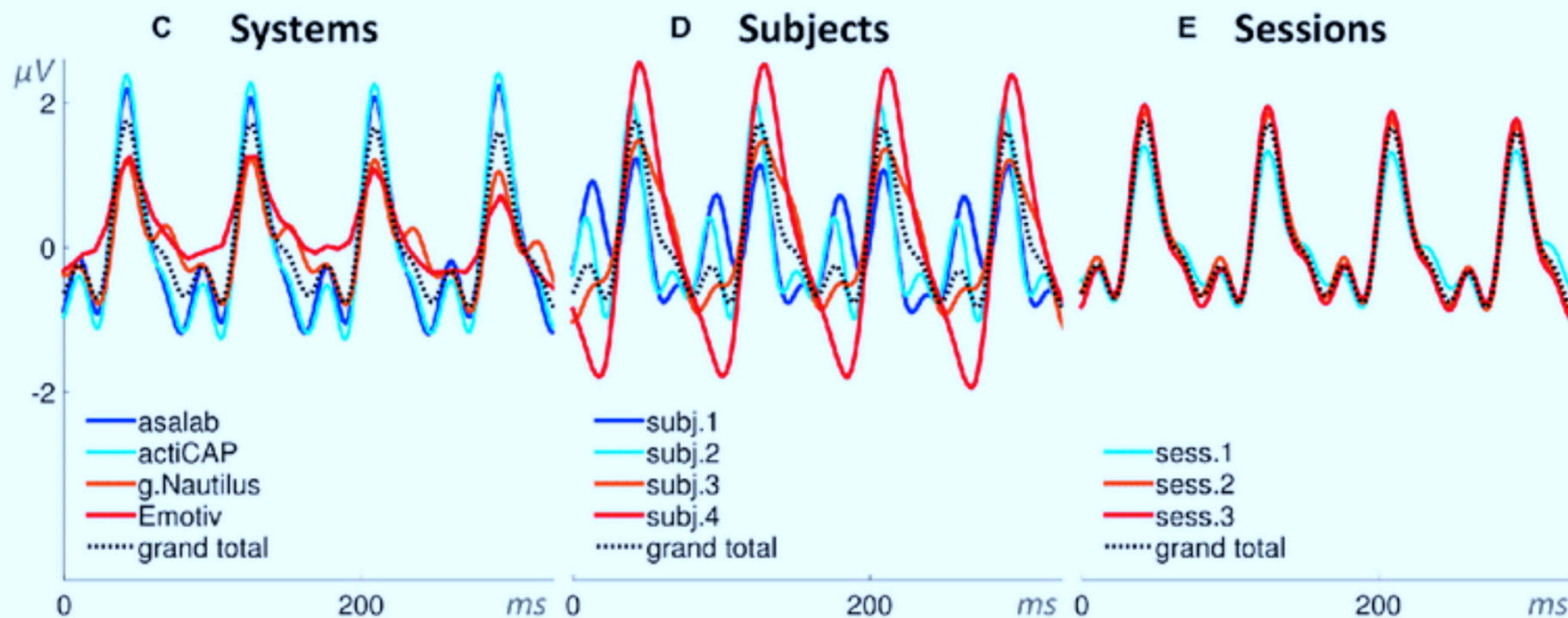
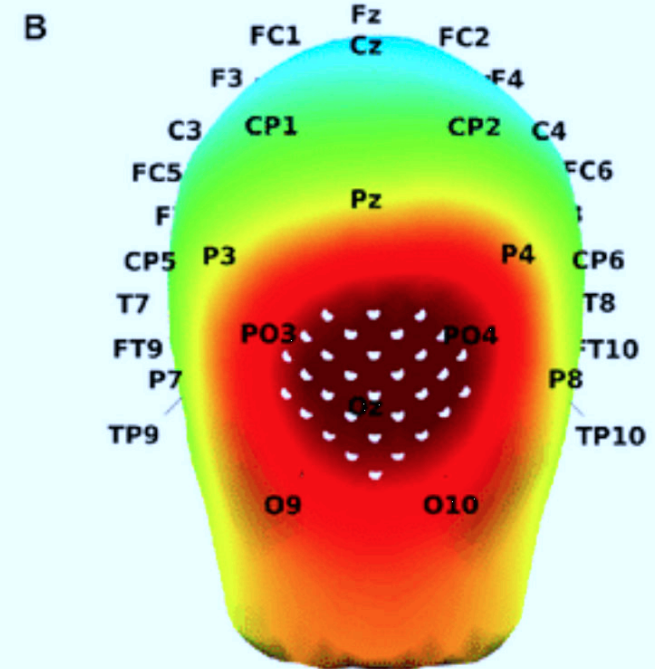
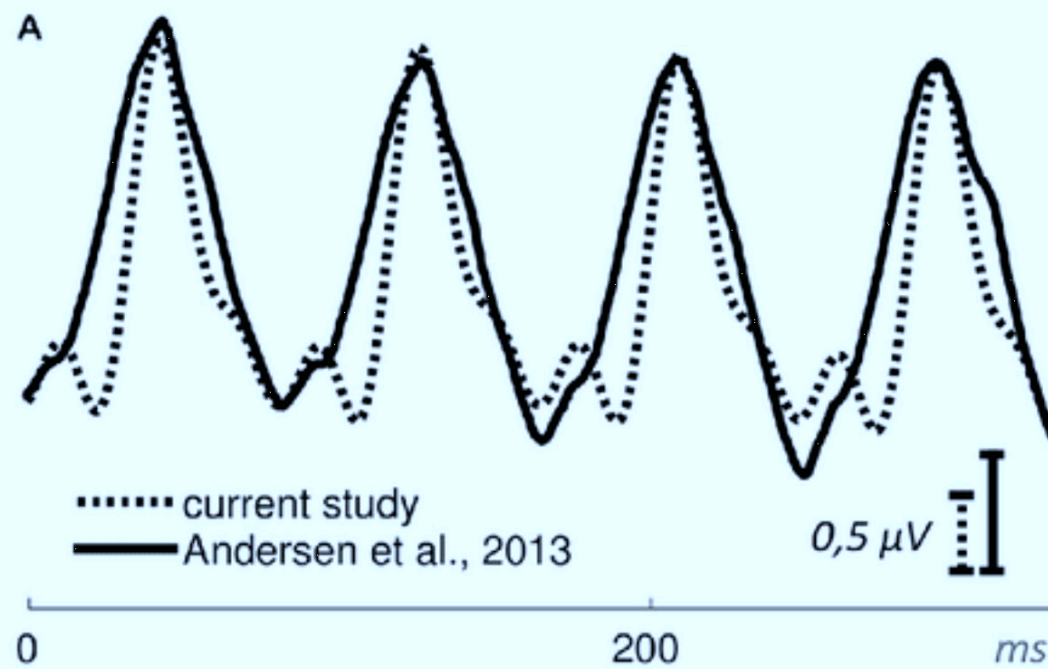


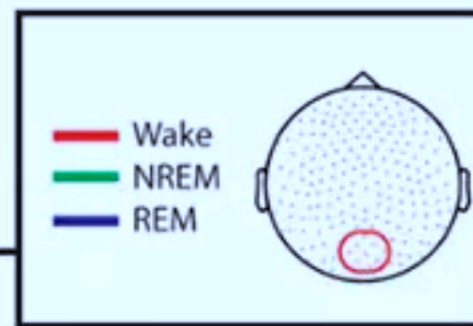
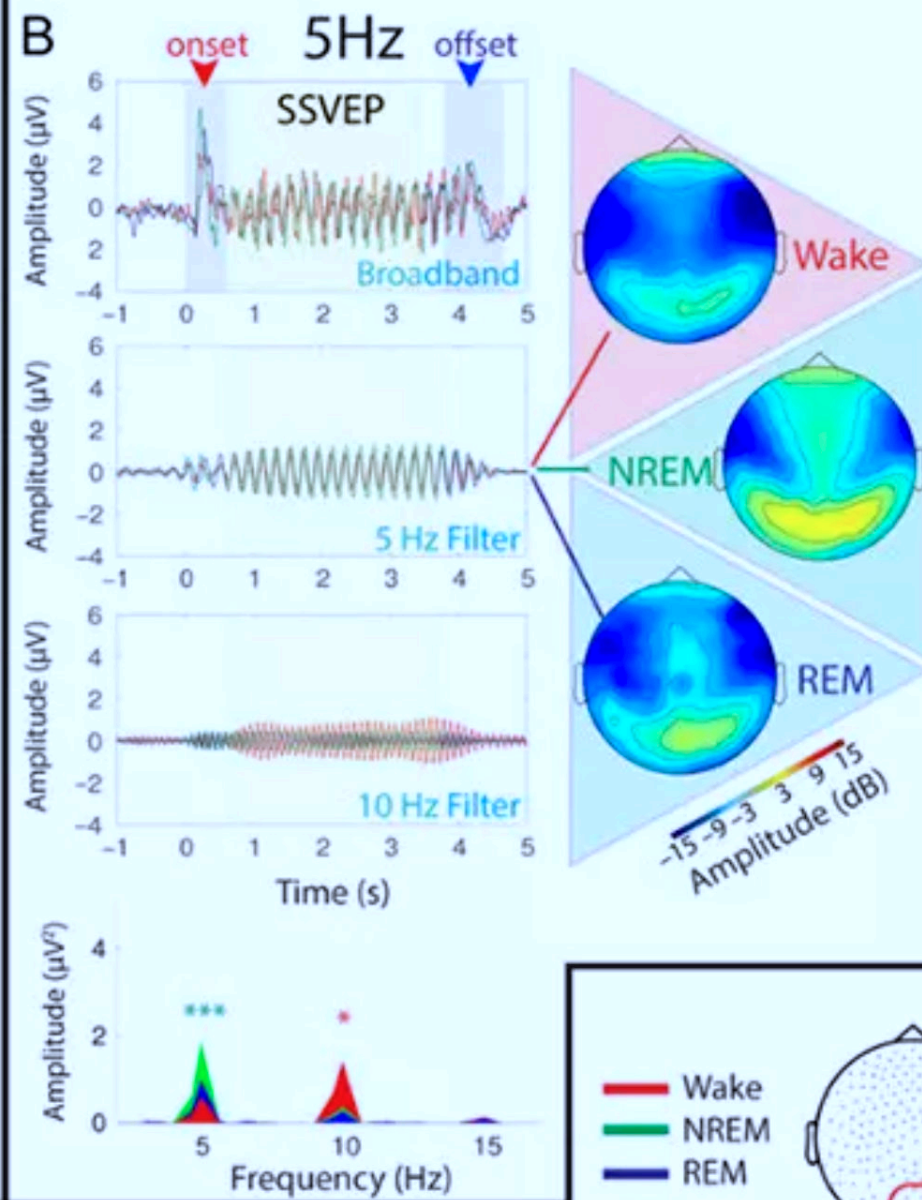
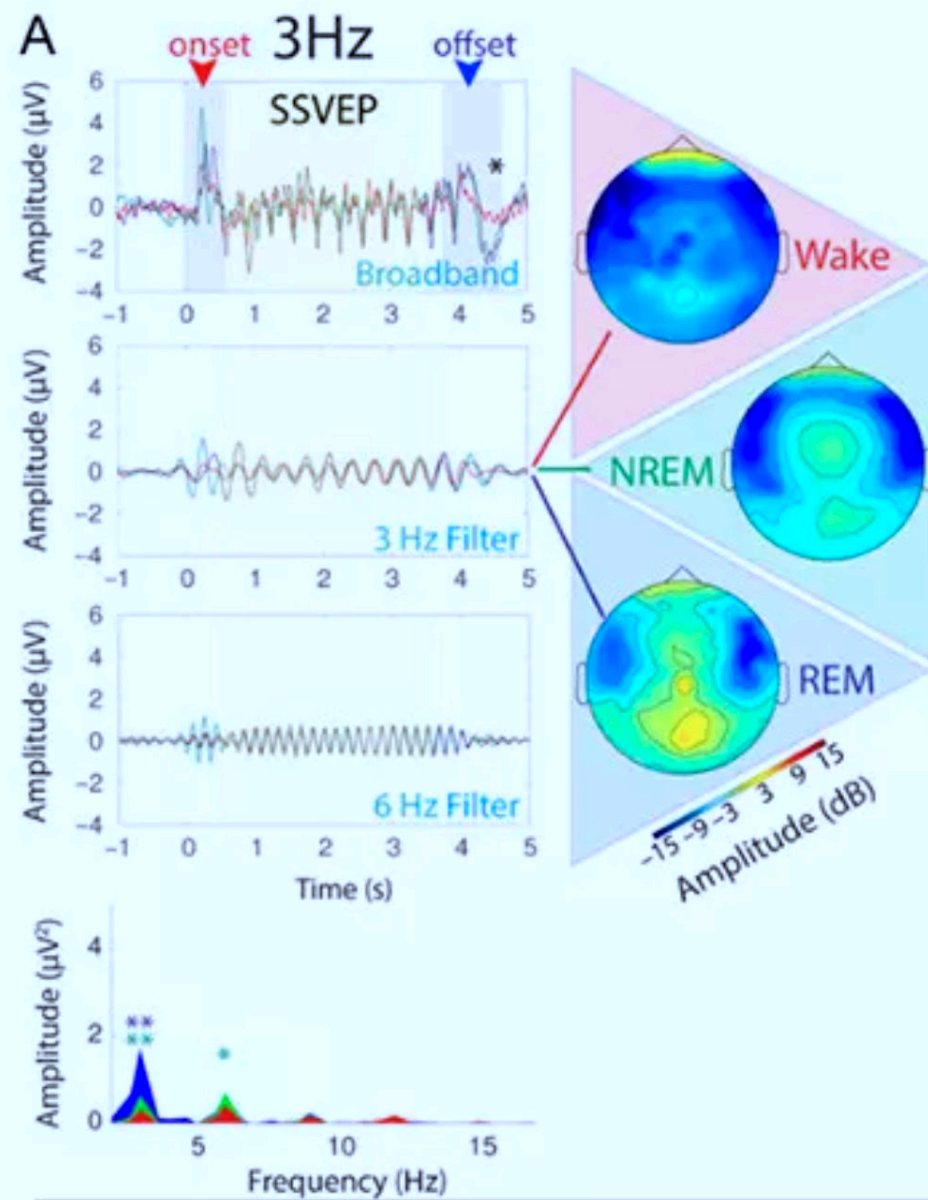
FFTs

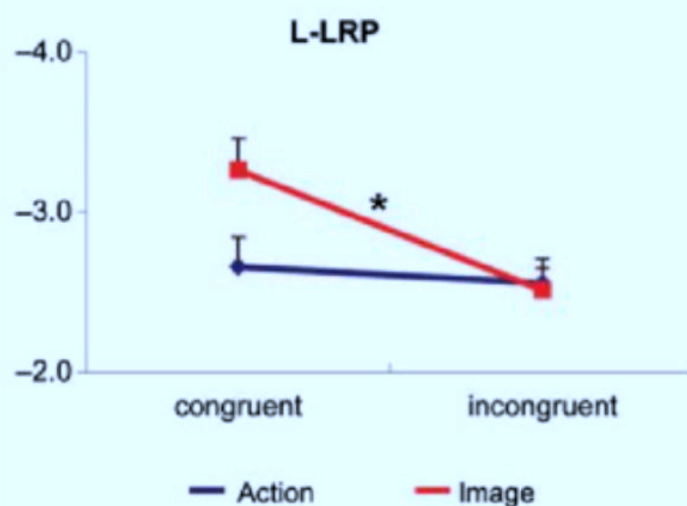
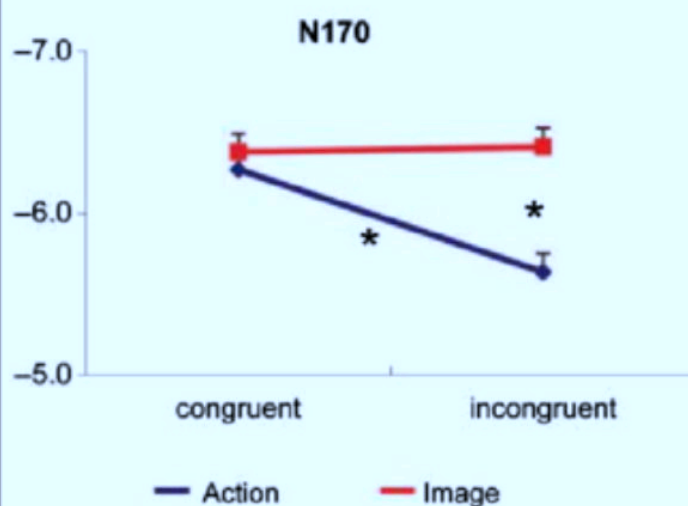
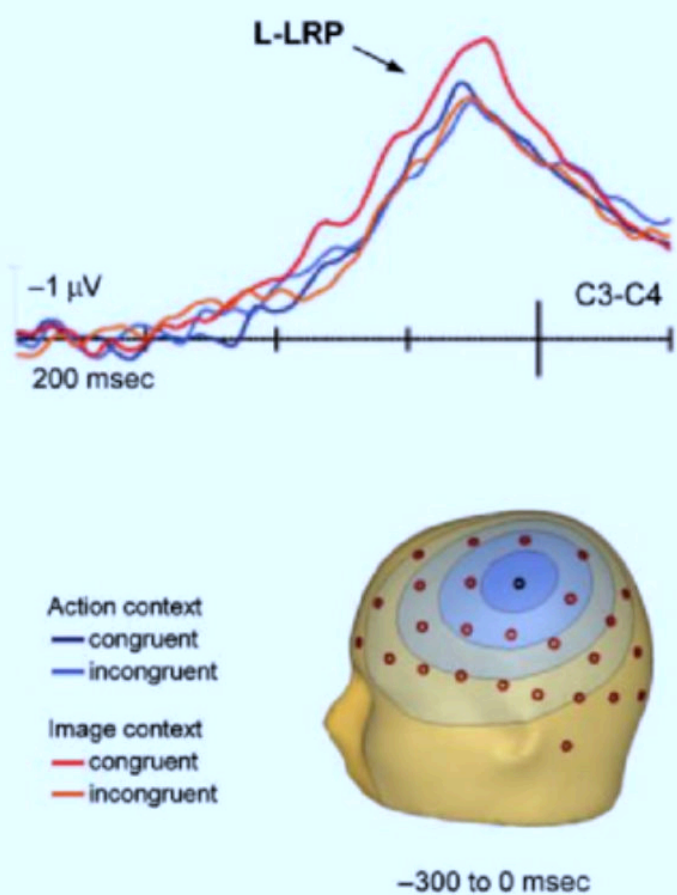
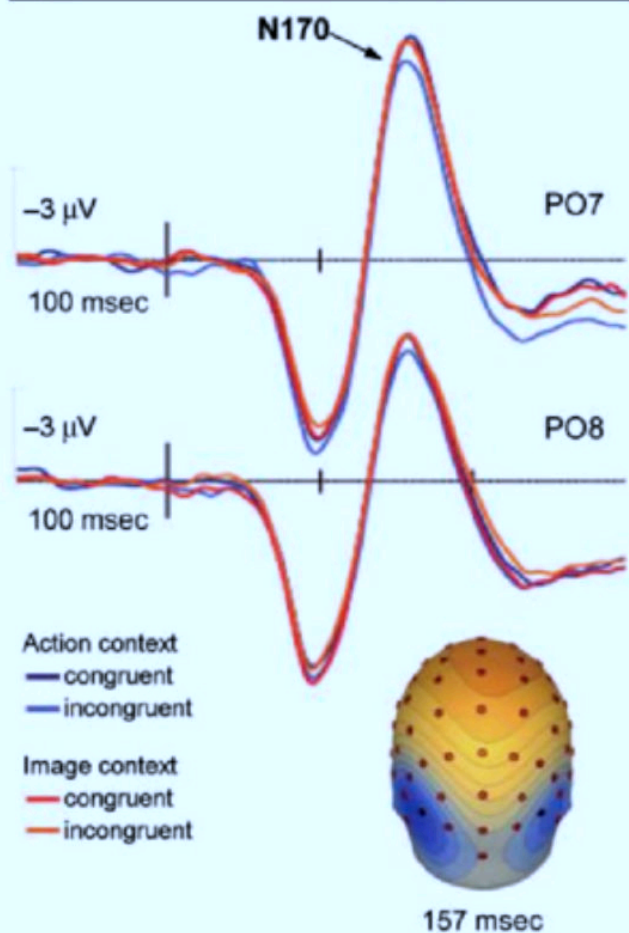
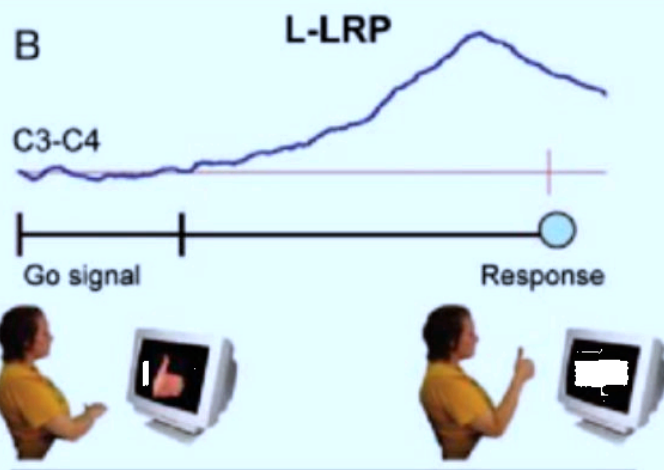
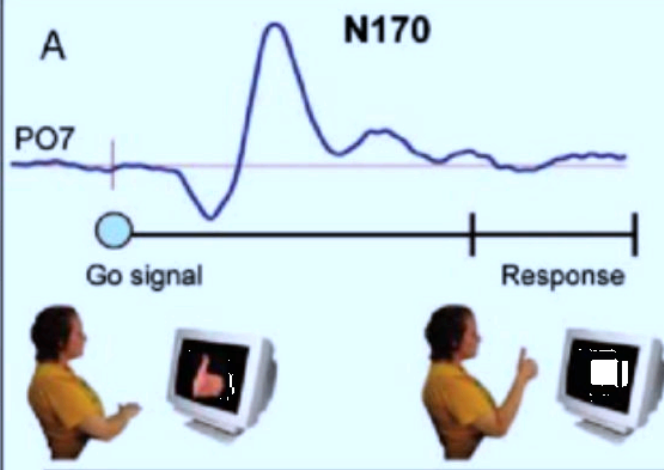


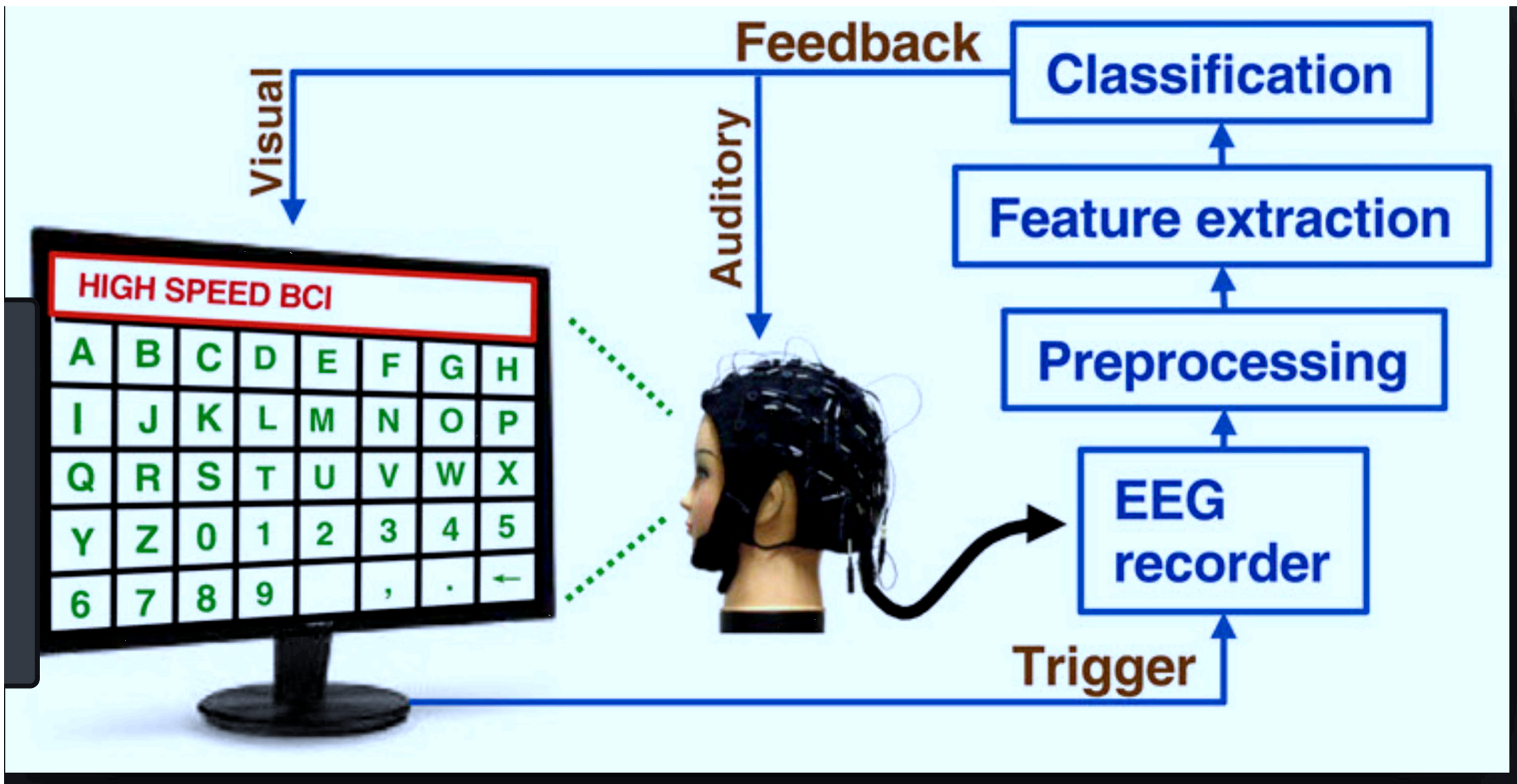












Wearable EEG Acquisition Device

EEG Acquisition Module

Bluetooth Module

ADC

Amplify

Filter

Dry EEG Sensor

EEG Signals



Bluetooth

PC with Bluetooth Module

Bluetooth Module

BCI Archery Game

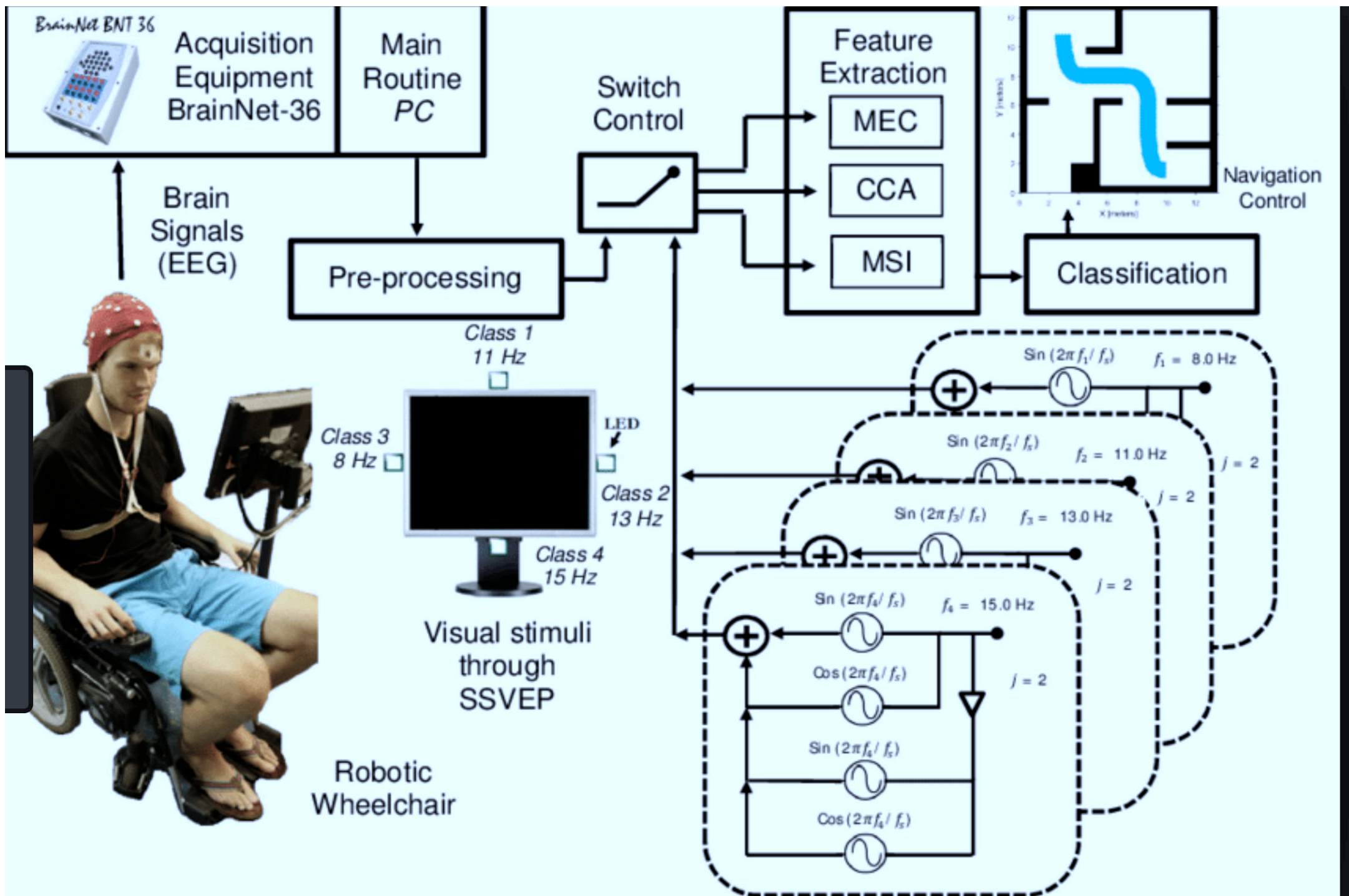
Signal Preprocessing

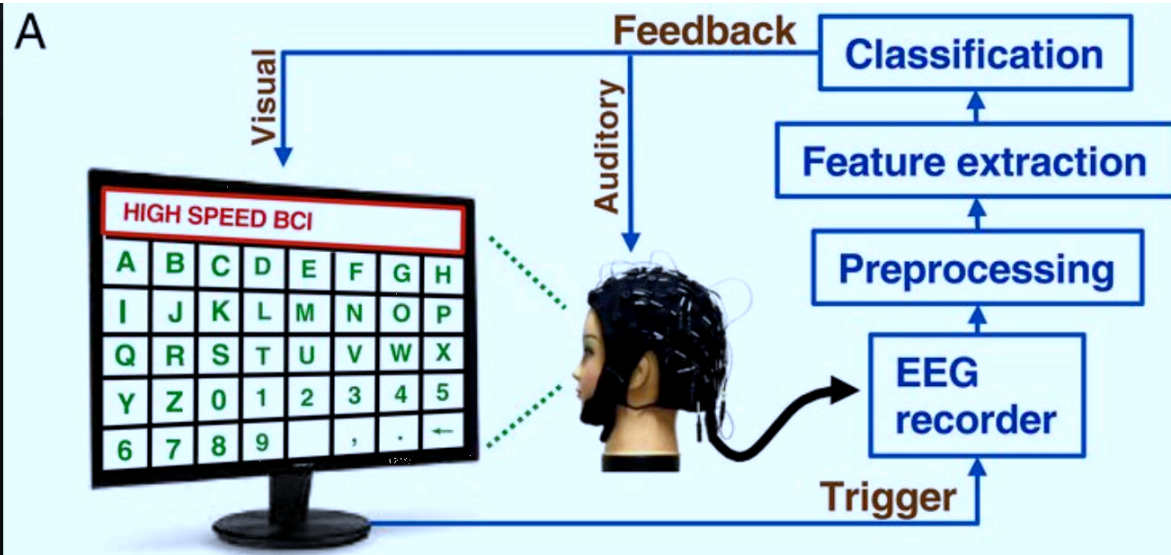
Focus Detection Algorithm

Update FL

Feedback (the latest FL)





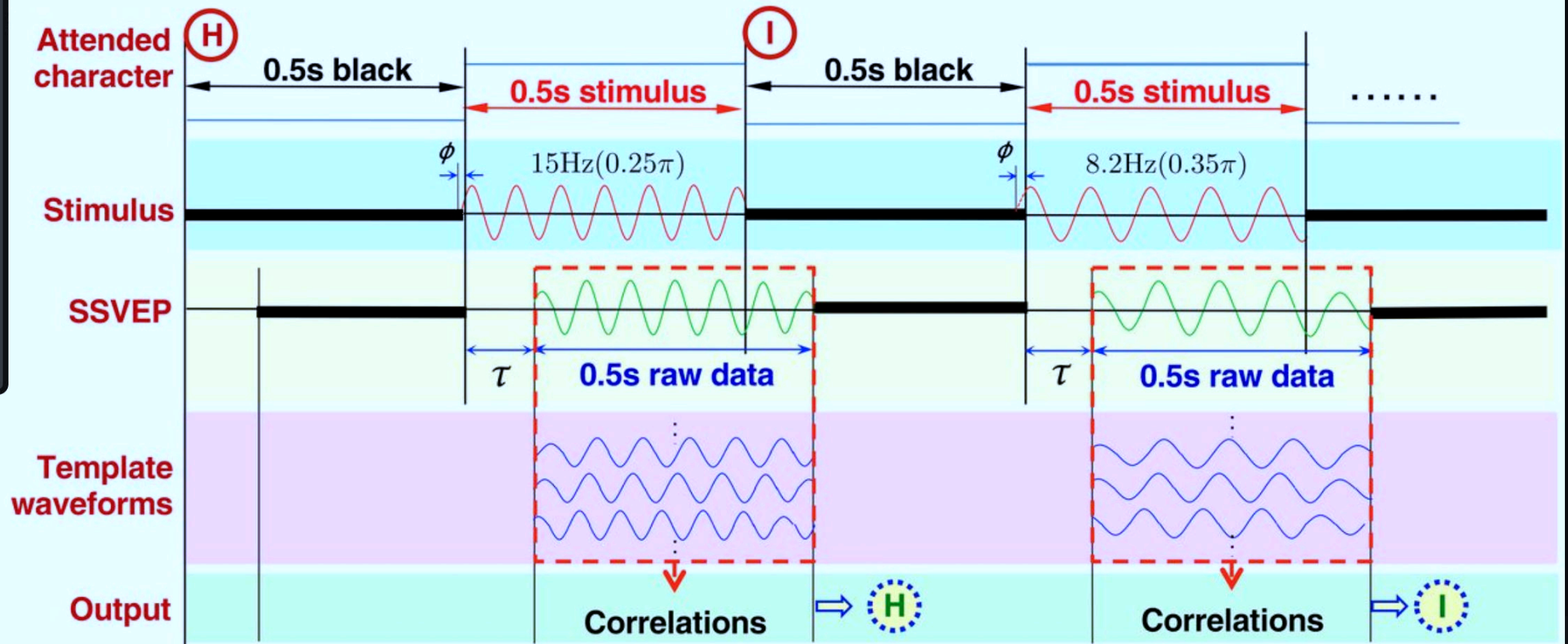


B

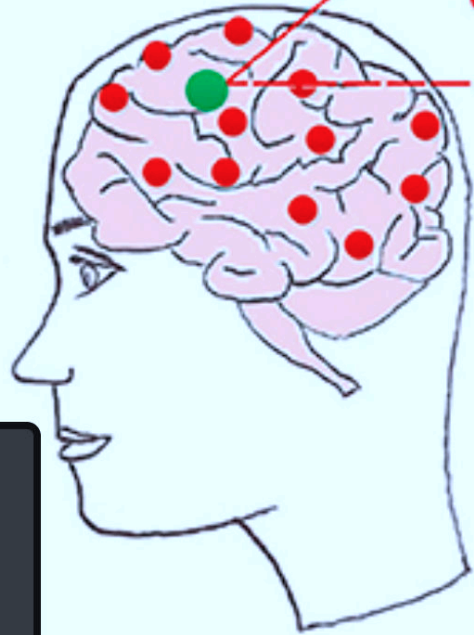
HIGH SPEED BCI

8.0 0.0	9.0 1.75	10.0 1.50	11.0 1.25	12.0 1.0	13.0 0.75	14.0 0.50	15.0 0.25
8.2 0.35	9.2 0.10	10.2 1.85	11.2 1.60	12.2 1.35	13.2 1.10	14.2 0.85	15.2 0.60
8.4 0.70	9.4 0.45	10.4 0.20	11.4 1.95	12.4 1.70	13.4 1.45	14.4 1.20	15.4 0.95
8.6 1.05	9.6 0.80	10.6 0.55	11.6 0.30	12.6 0.05	13.6 1.80	14.6 1.55	15.6 1.30
8.8 1.40	9.8 1.15	10.8 0.90	11.8 0.65	12.8 0.40	13.8 0.15	14.8 1.90	15.8 1.65

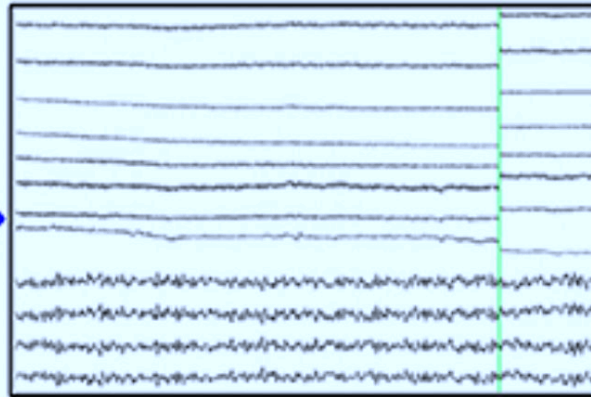
Freq. (Hz)
Phase (π)



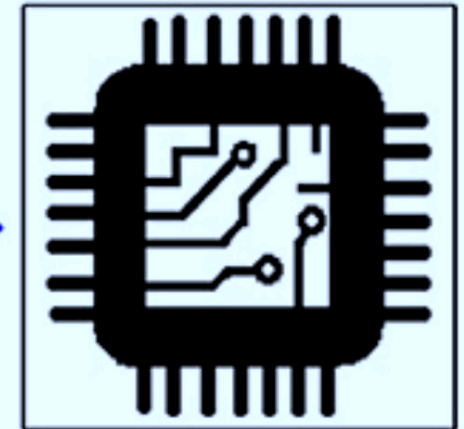
Motor Imagery



EEG Recording



Decoding, Signal processing
Feature extraction and
Classification

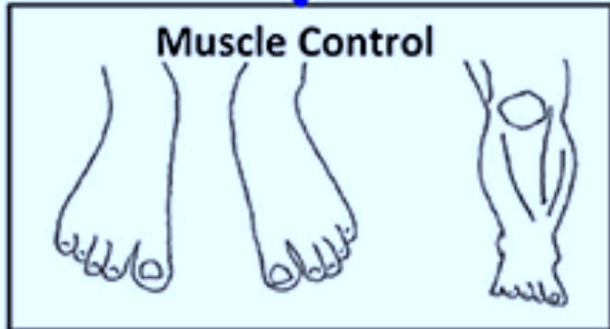


Control Signals

Natural
communication
channel broken

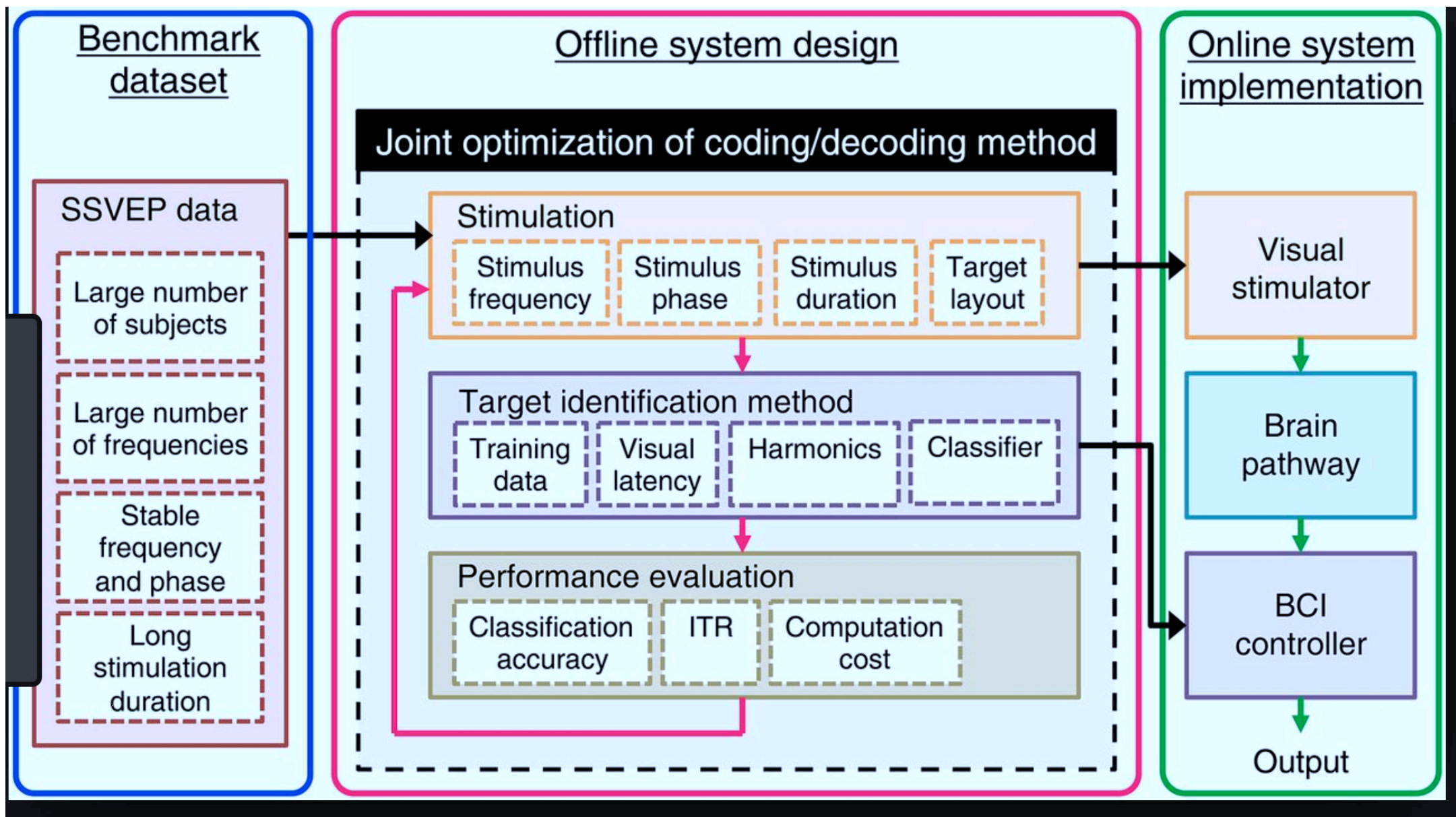


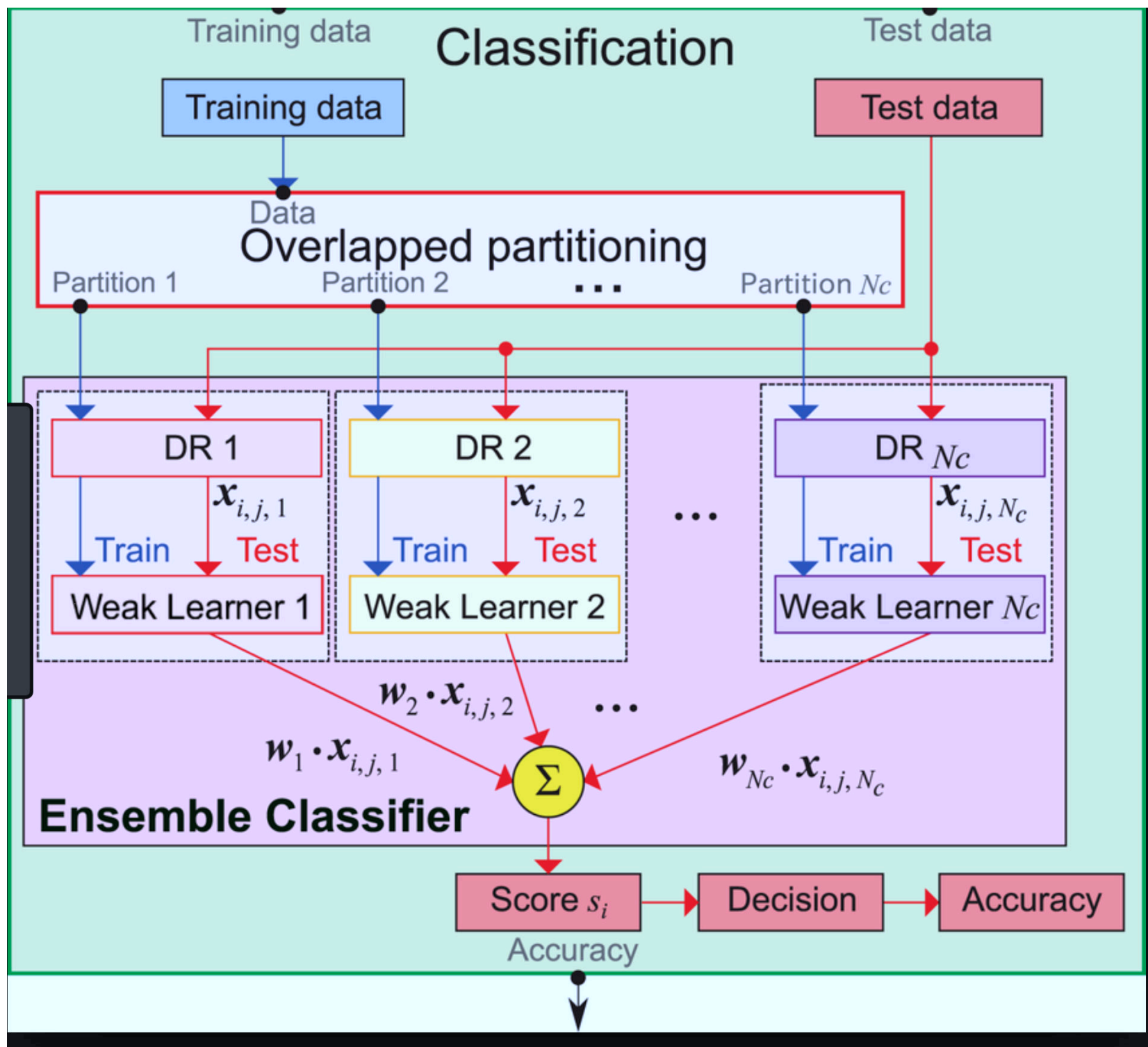
Muscle Control



Artificial control of LL assistive devices

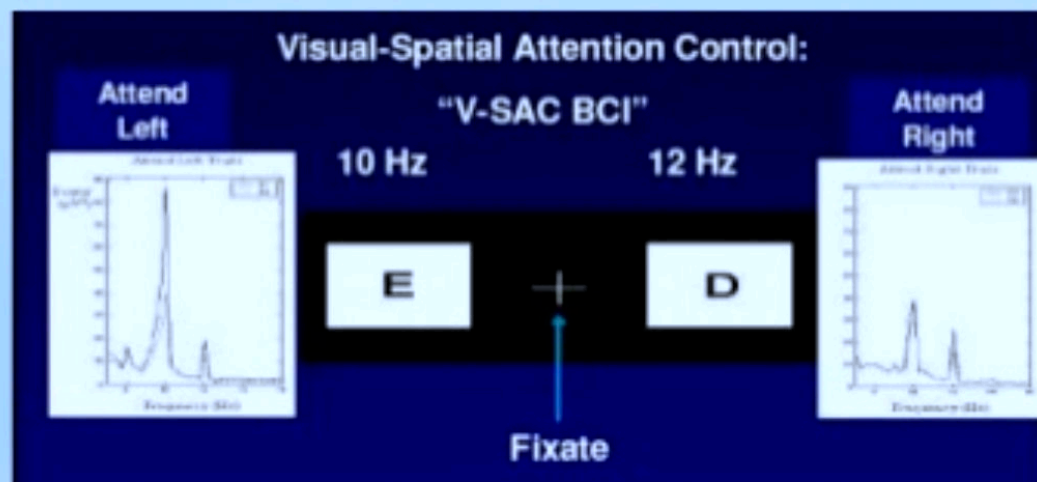


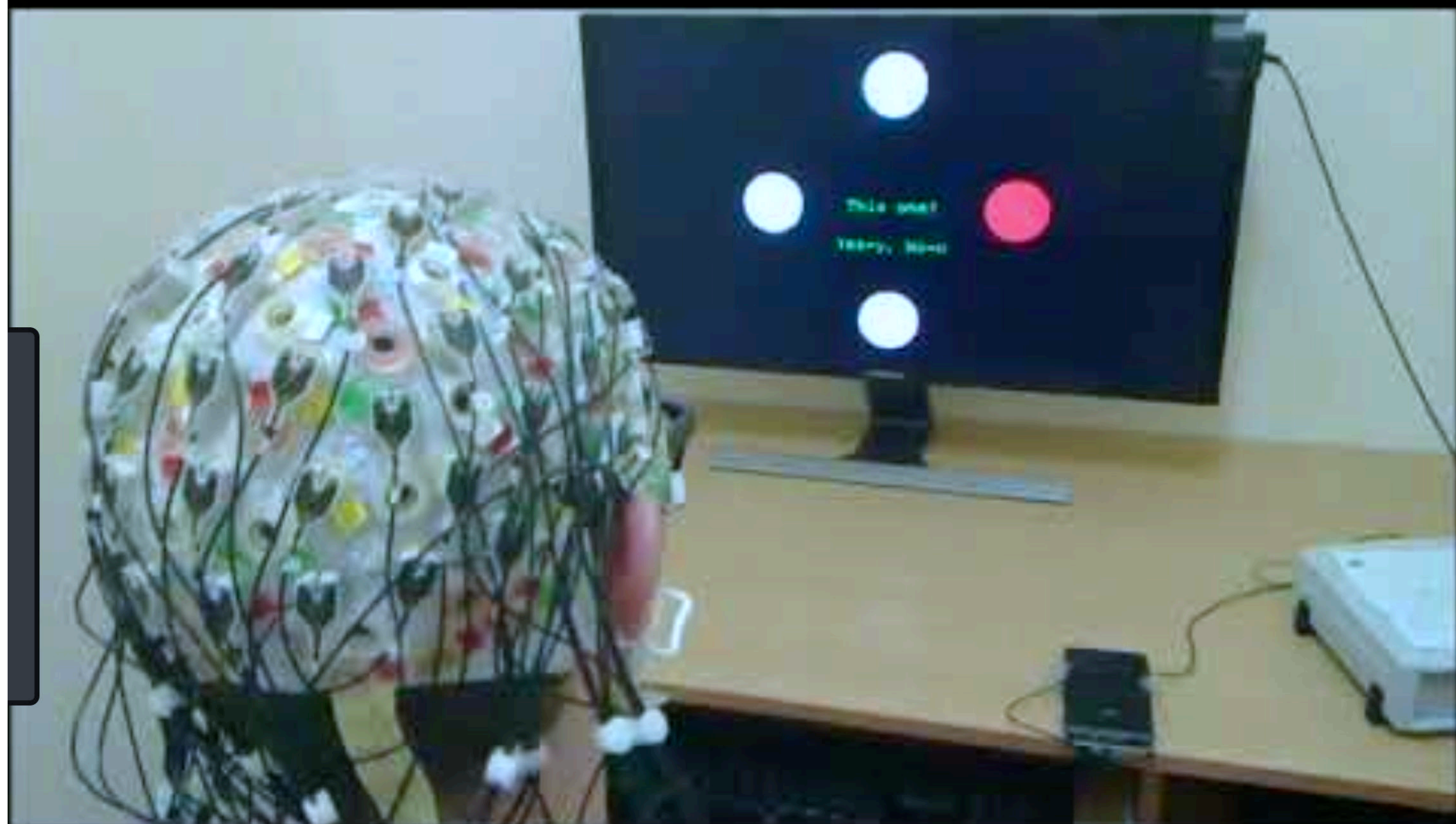


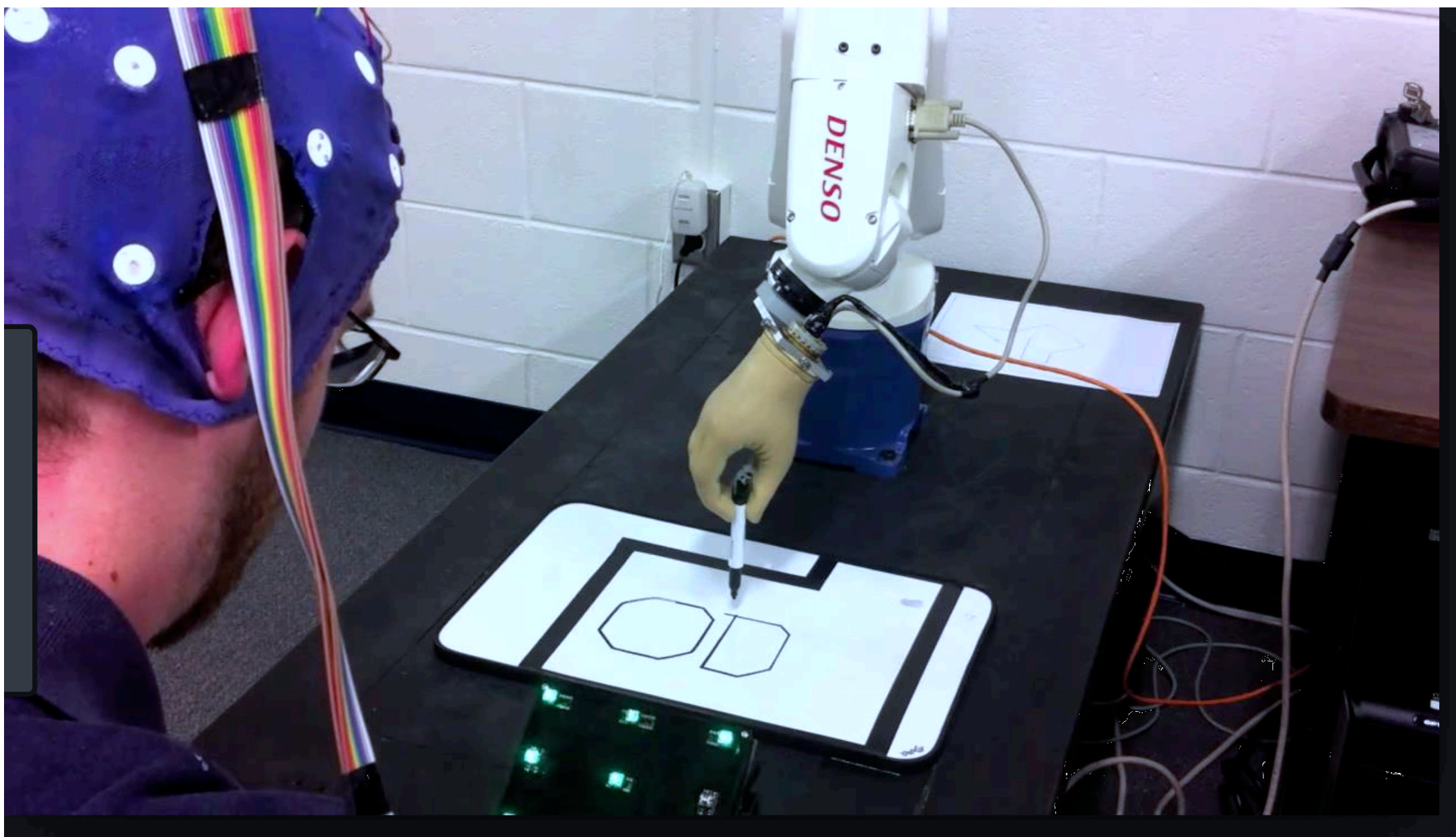


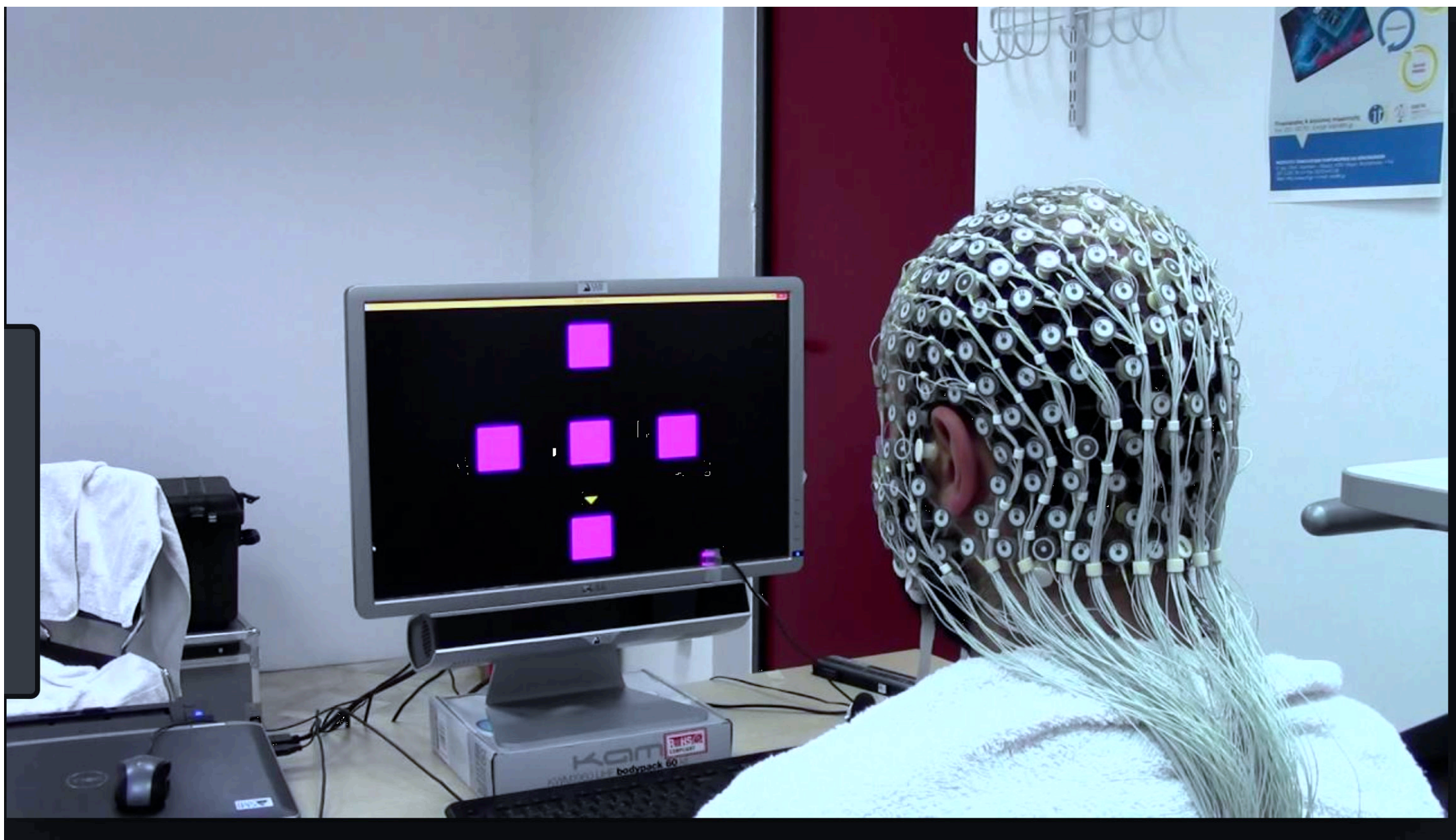
Brain Computer Interfaces – SSVEP

- Steady State Visual Evoked Potentials derived from the visual (occipital) cortex
- focussing attention to visual stimuli of different frequency shows up in the EEG frequency bands
- reliable and high transfer rate, but some prerequisites (eyes)





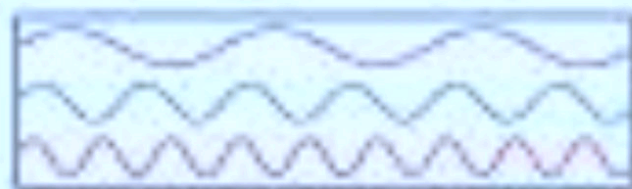




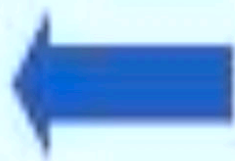
Visual stimulus



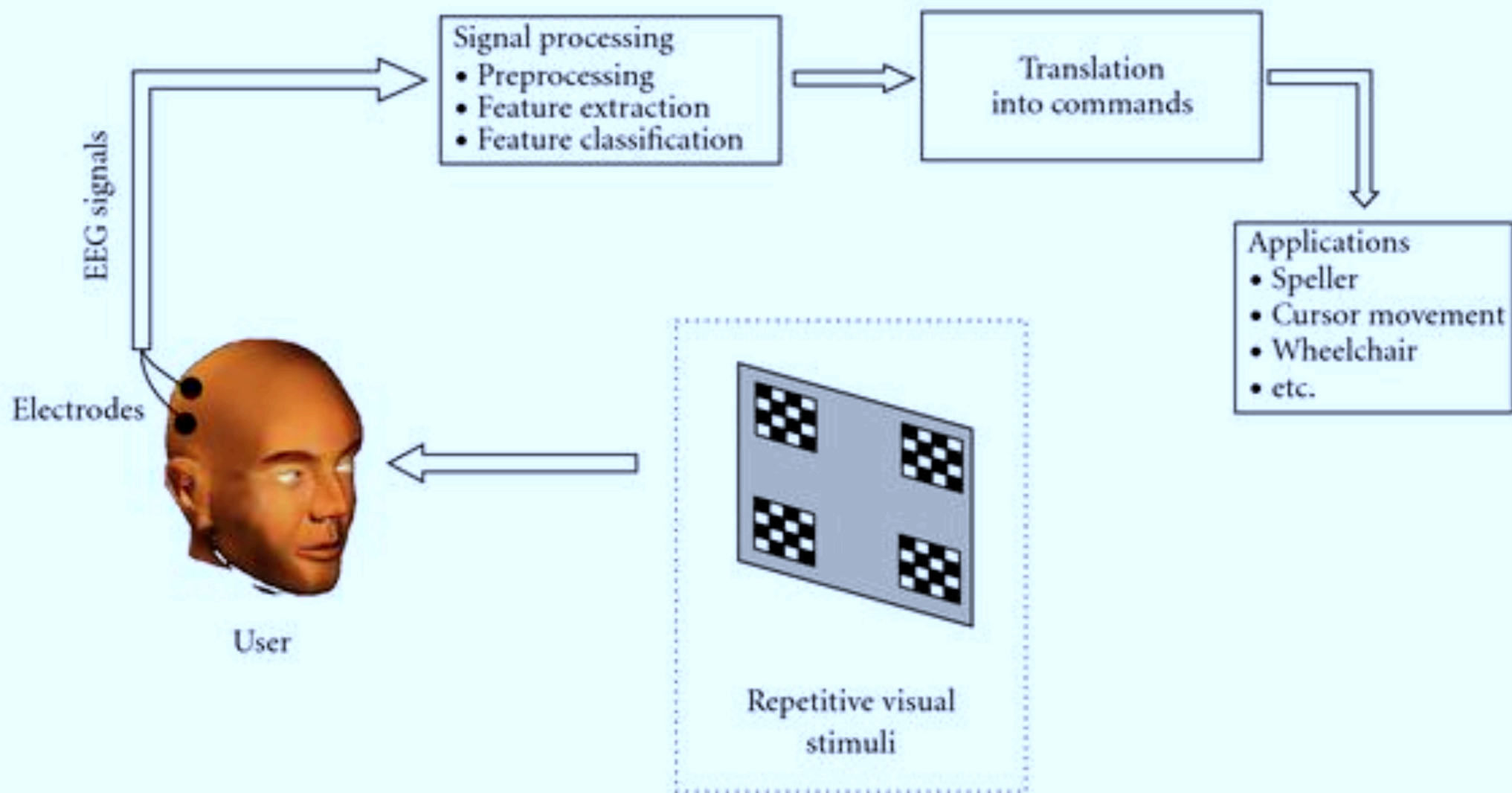
Neurons excitation in occipital lobe of the brain



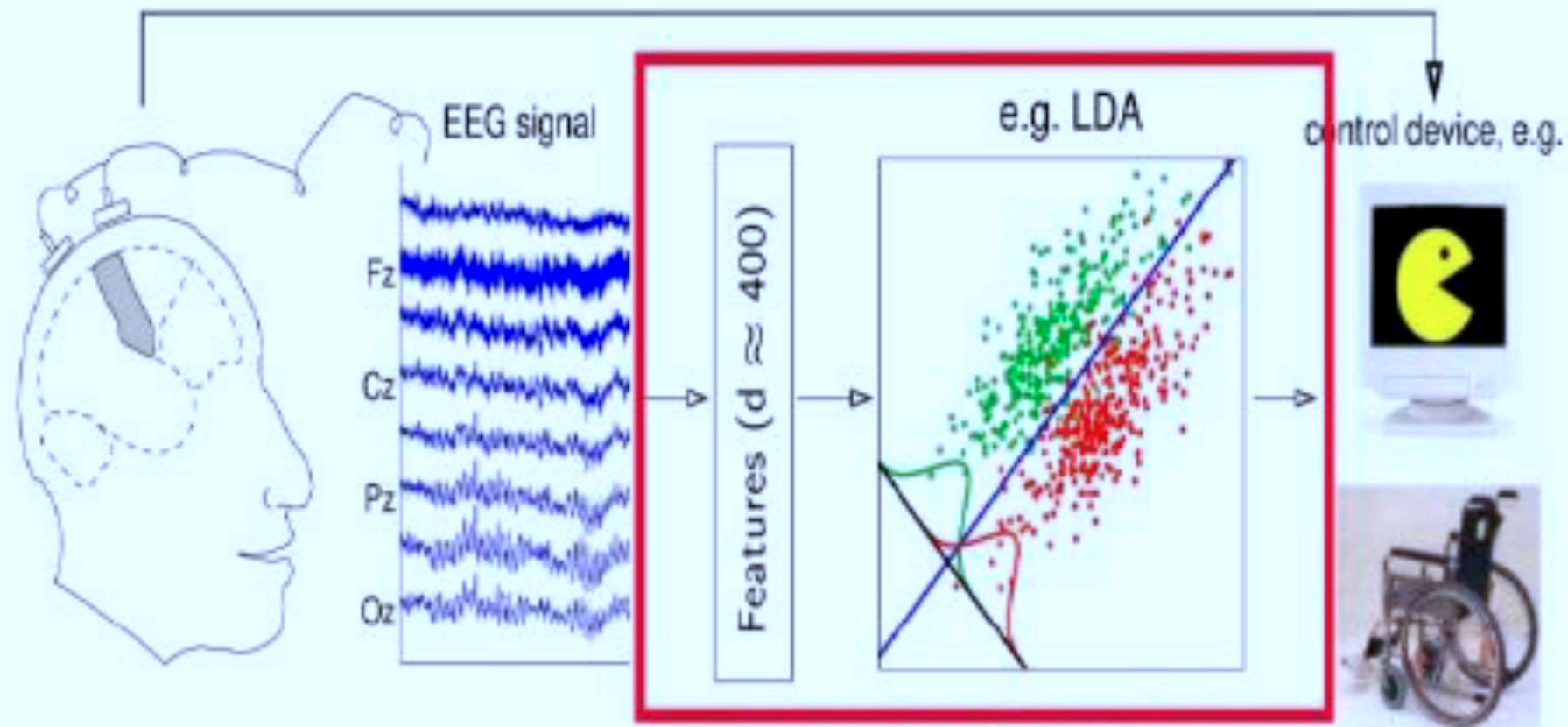
Stimulus signal frequency and its harmonics



SSVEP signal



Noninvasive Brain-Computer Interface



DECODING

BCI: Translation of human intentions into a technical control signal
without using activity of muscles or peripheral nerves

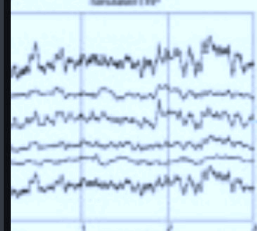
VIEW



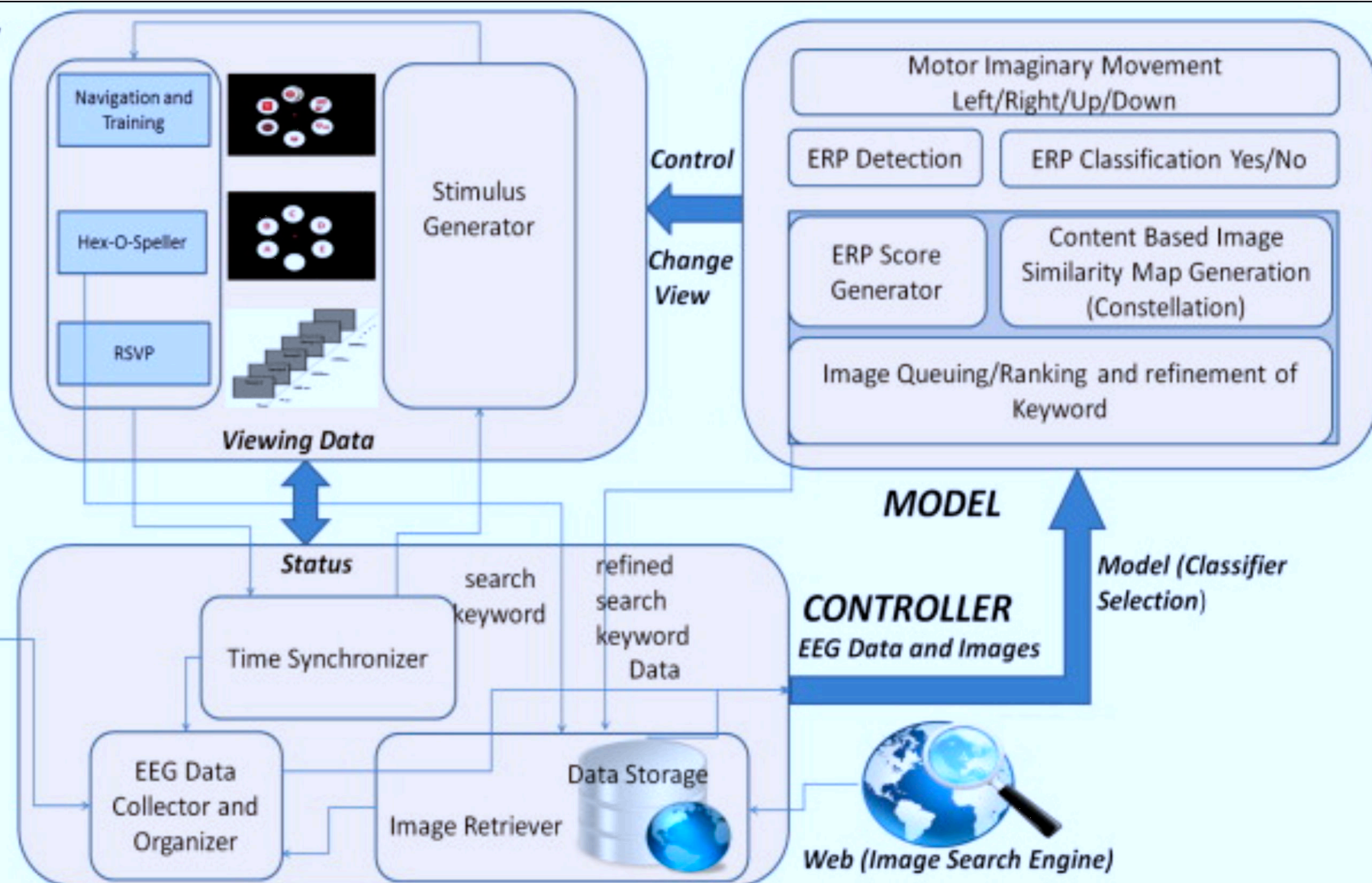
Screen Display



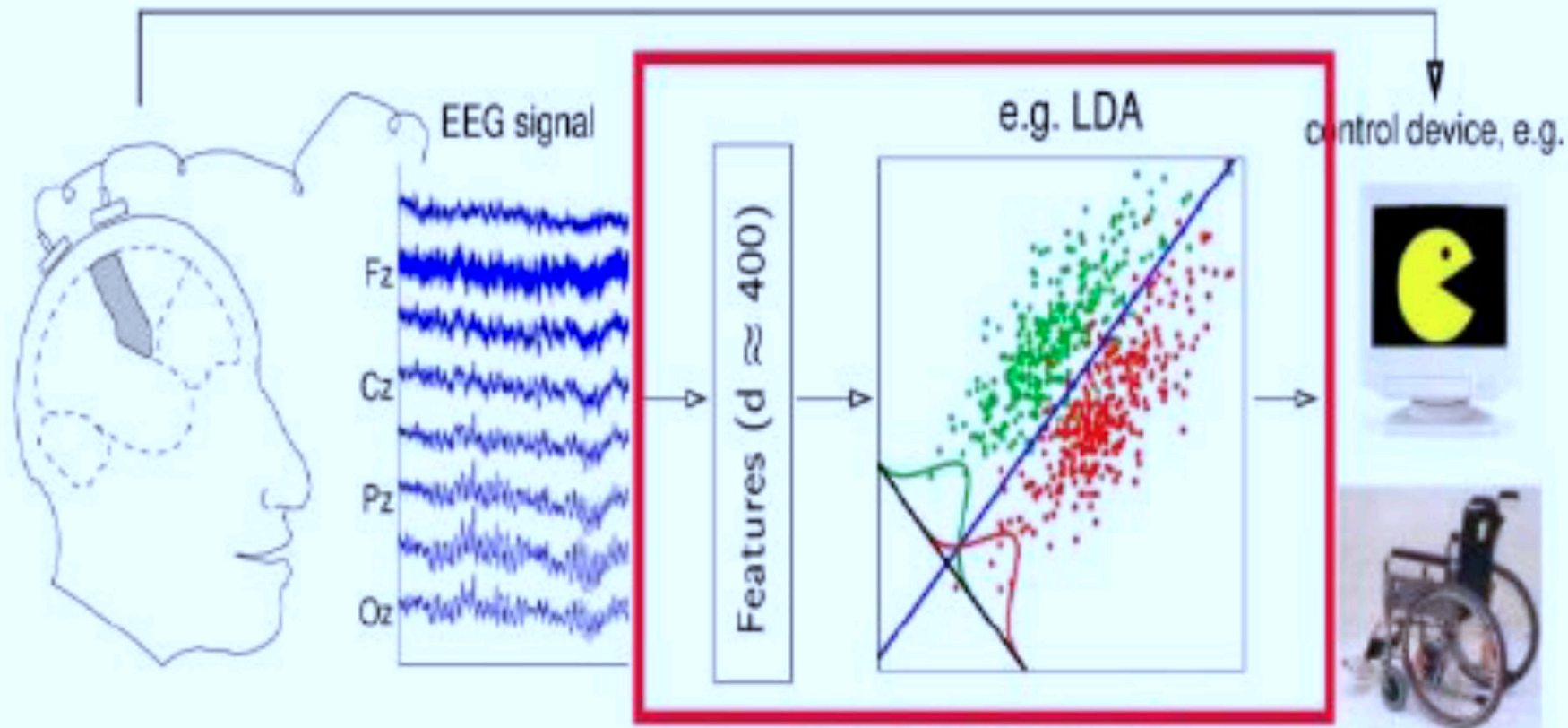
EEG Cap 10/20 placement



Raw EEG Signal

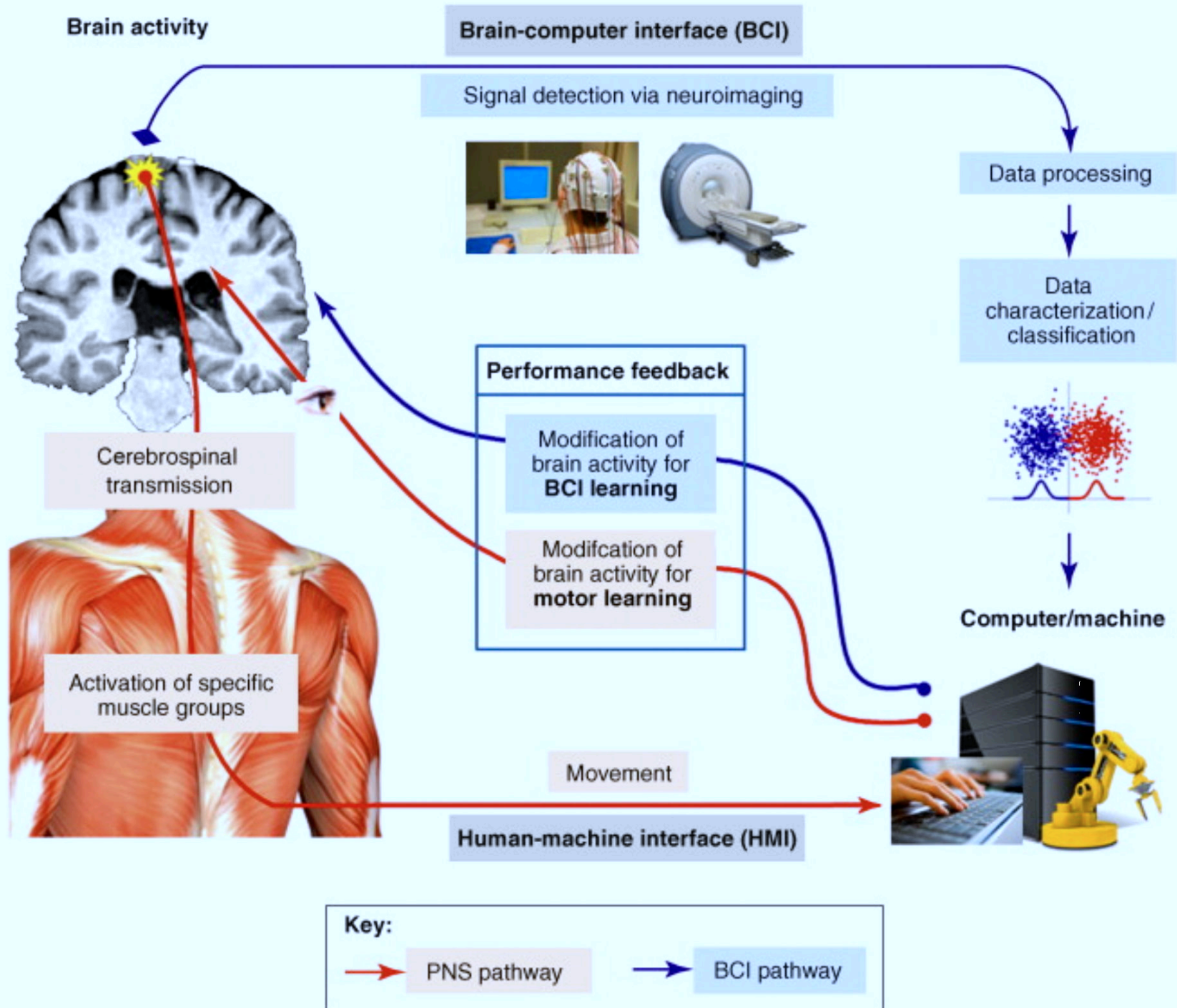


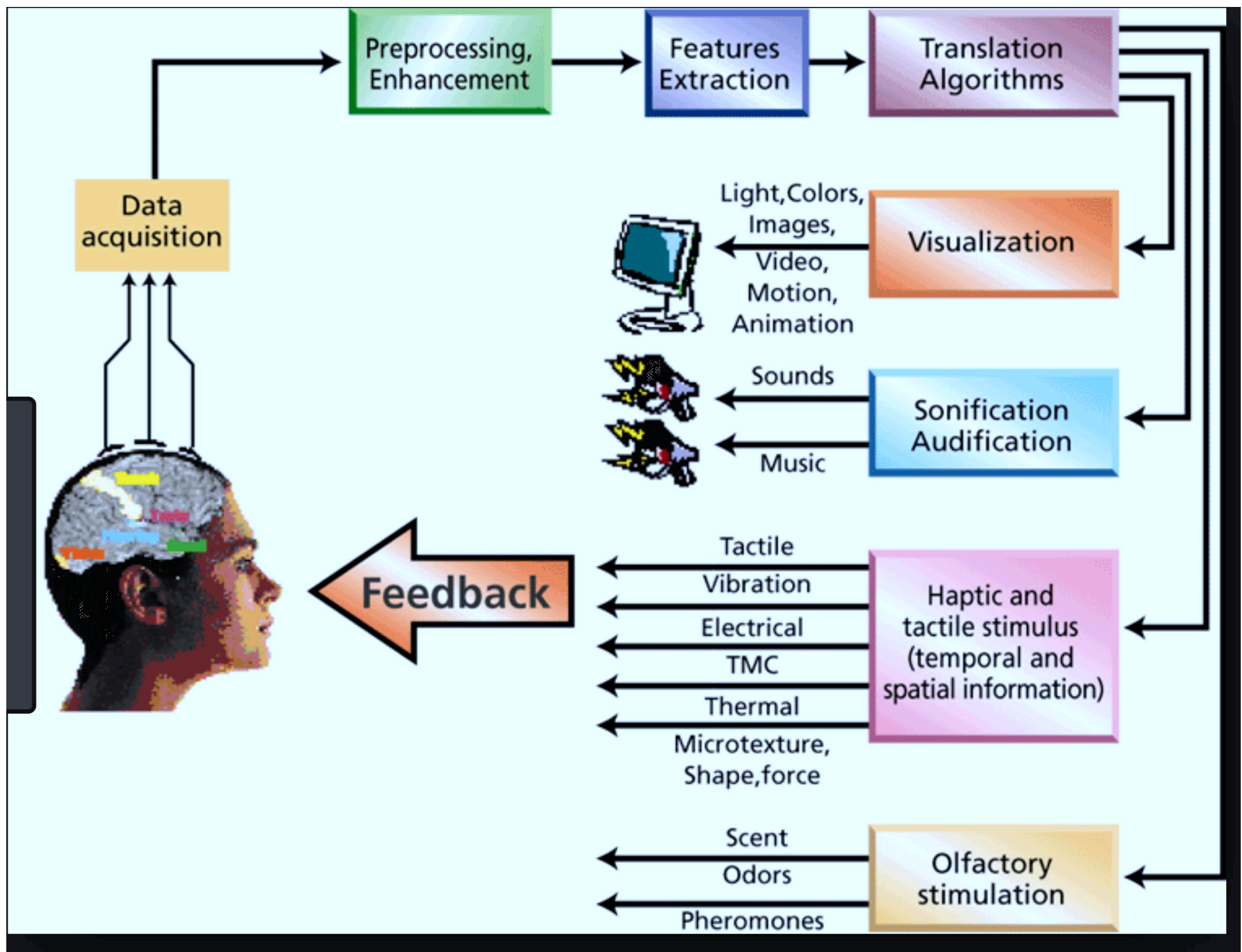
Noninvasive Brain-Computer Interface



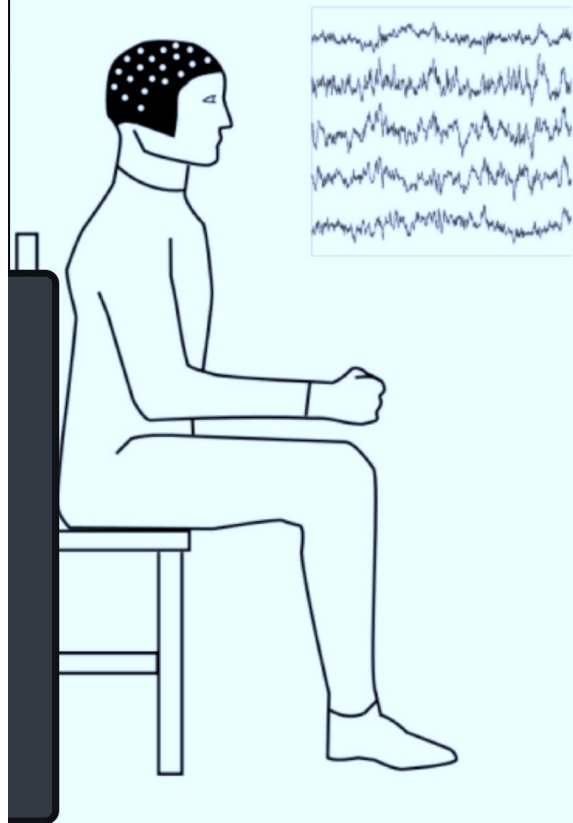
DECODING

BCI: Translation of human intentions into a technical control signal
without using activity of muscles or peripheral nerves

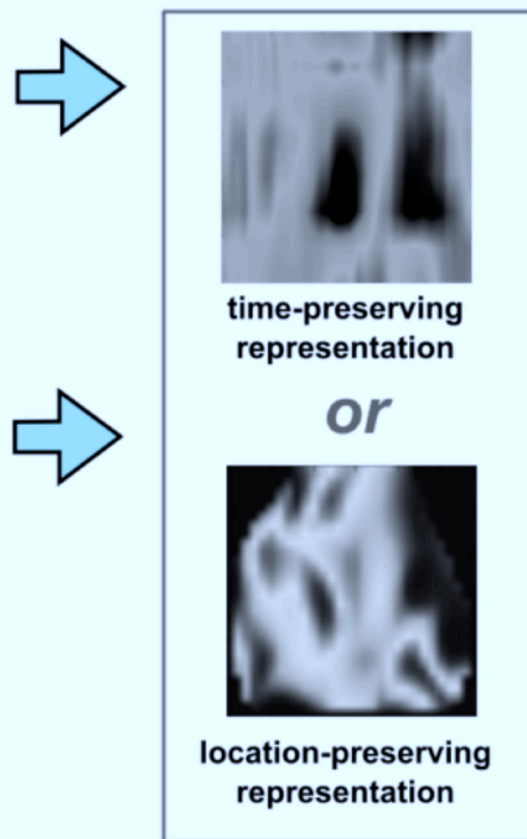




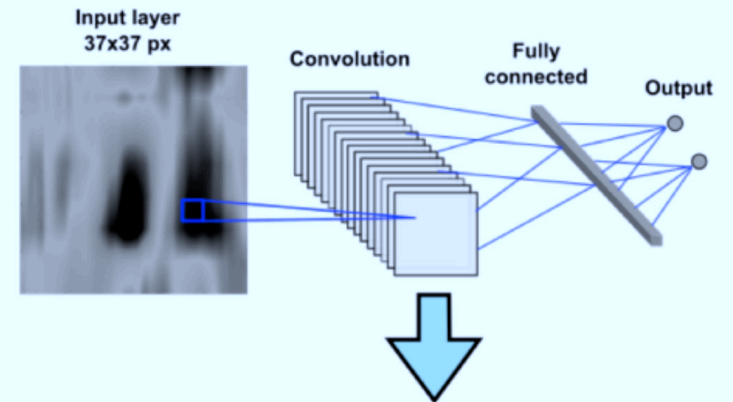
(a) Signal acquisition



(b) Signal processing



(c) Train CNN classifier (GPU)

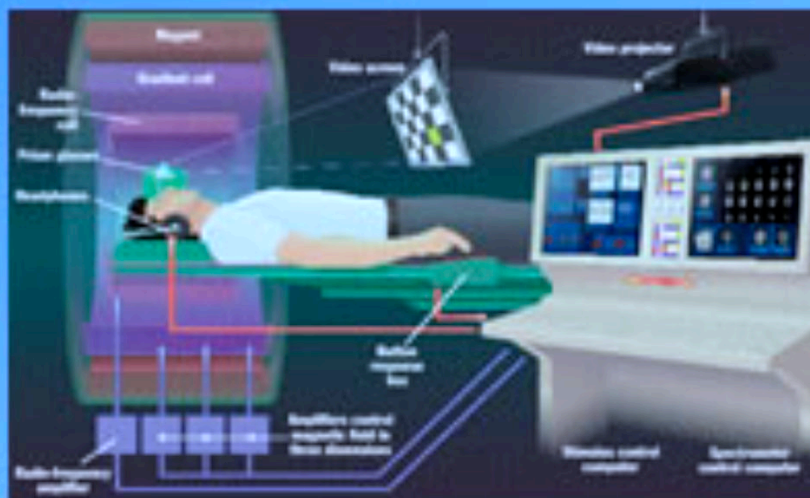


(d) Re-train TrueNorth optimized model

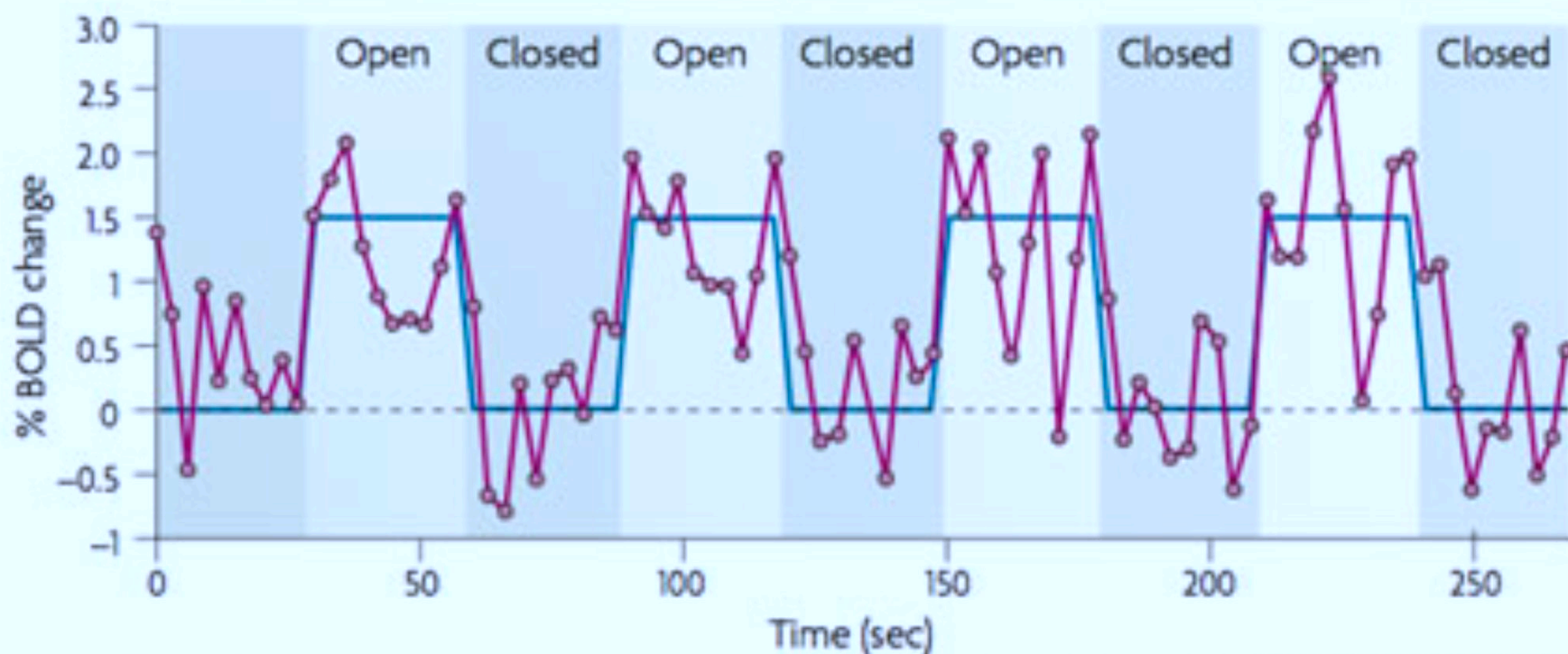
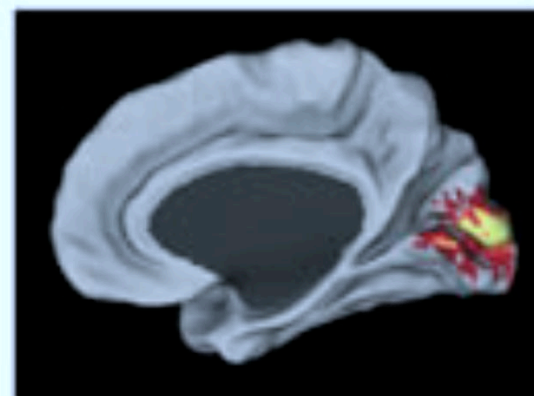


(e) Deployment onto TrueNorth

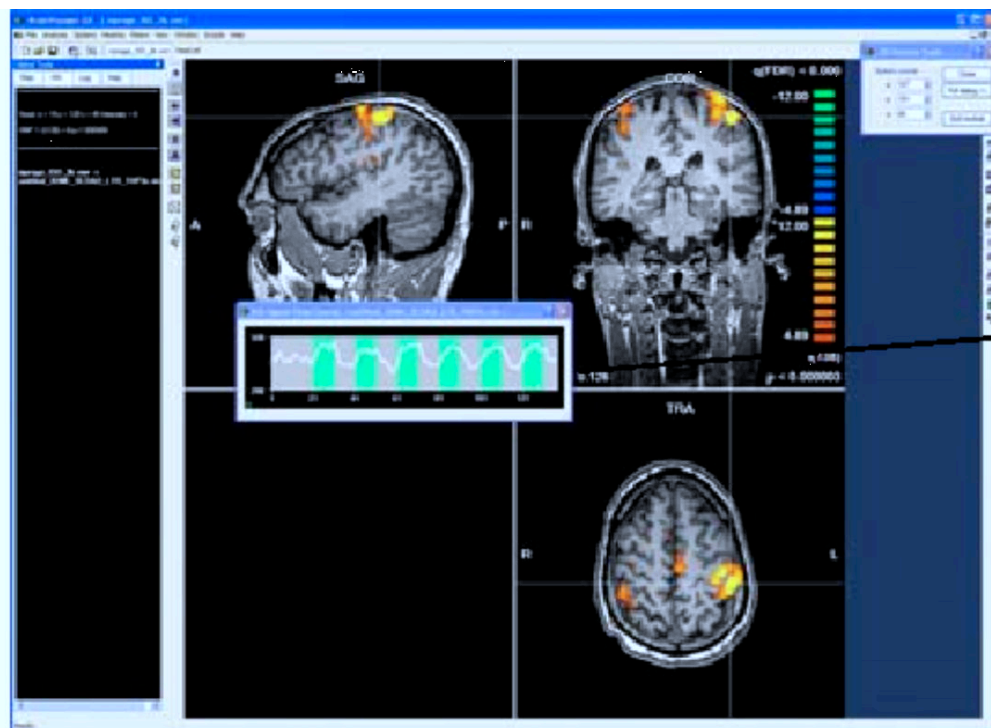
Functional MRI



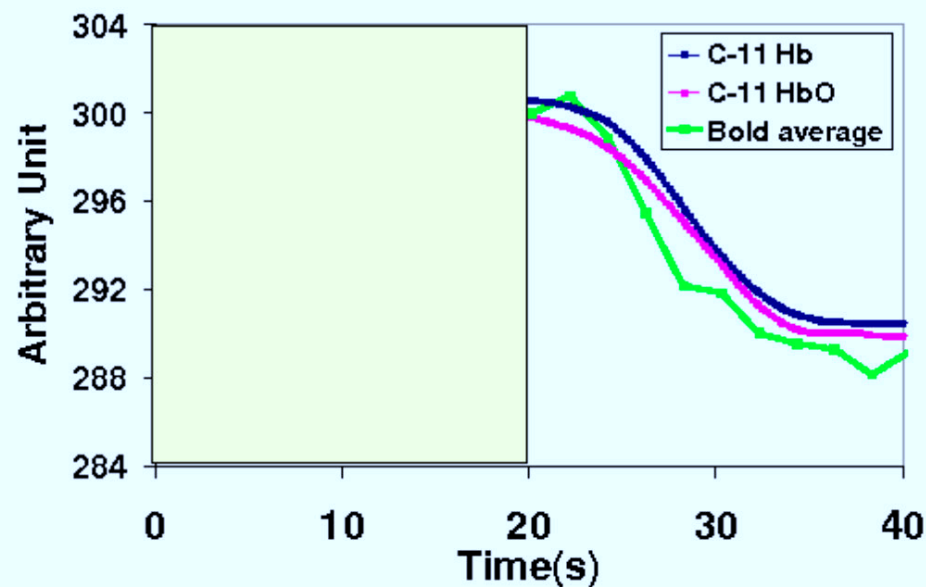
Open - Closed =



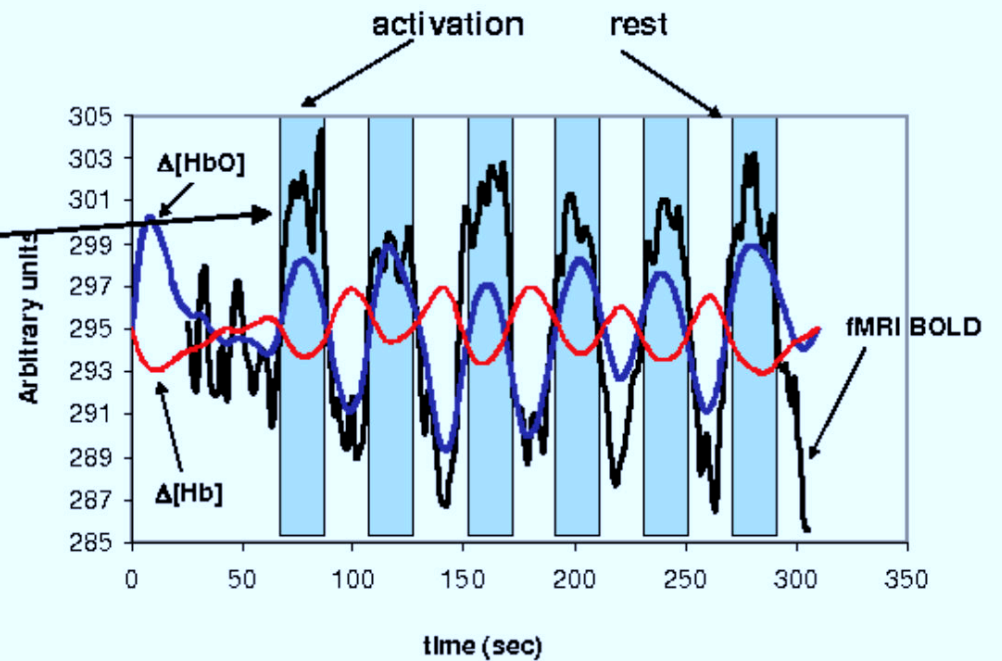
Fox and Raichle 2007



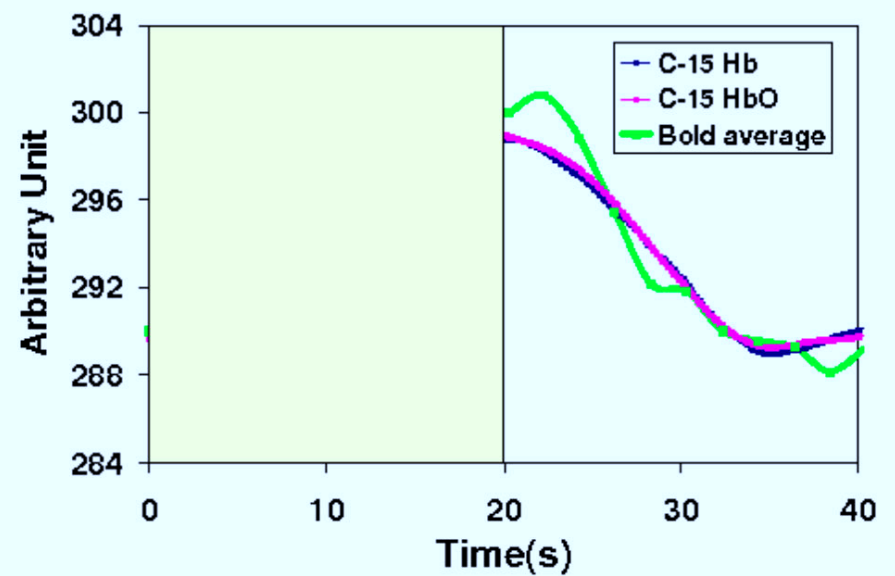
C11

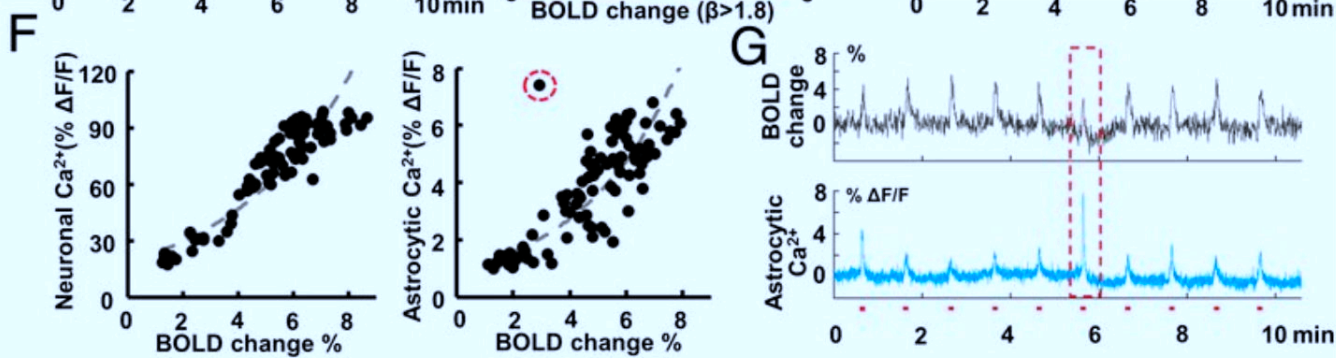
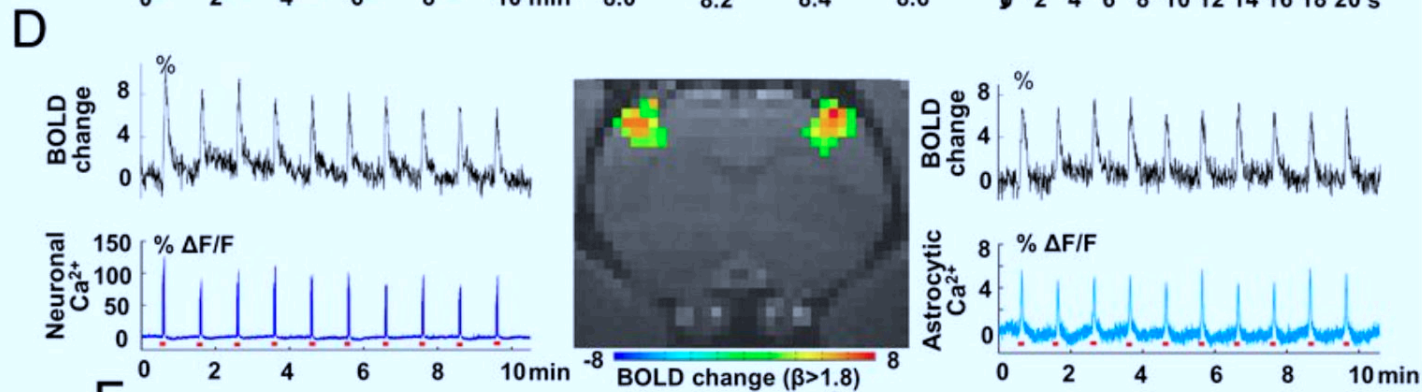
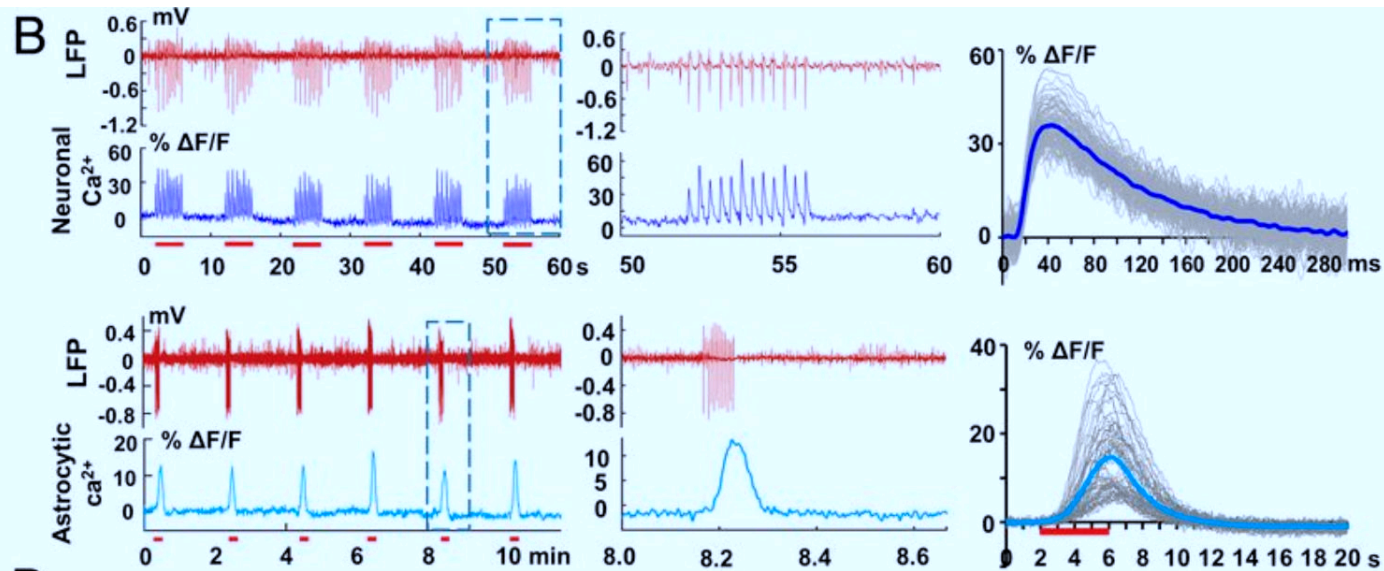


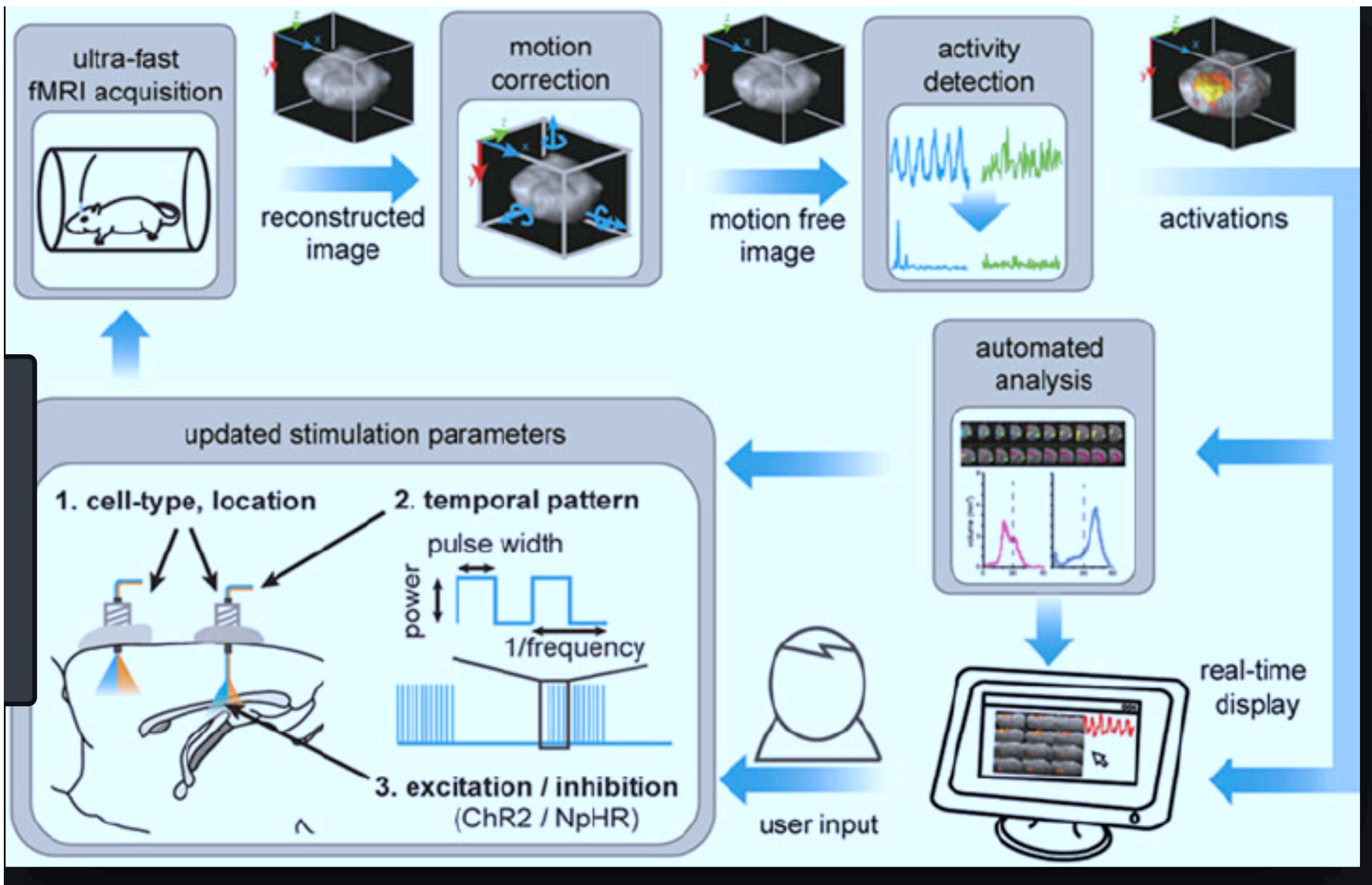
Comparison of fMRI BOLD and NIRS signals



C15







Real-life Avatar: Th

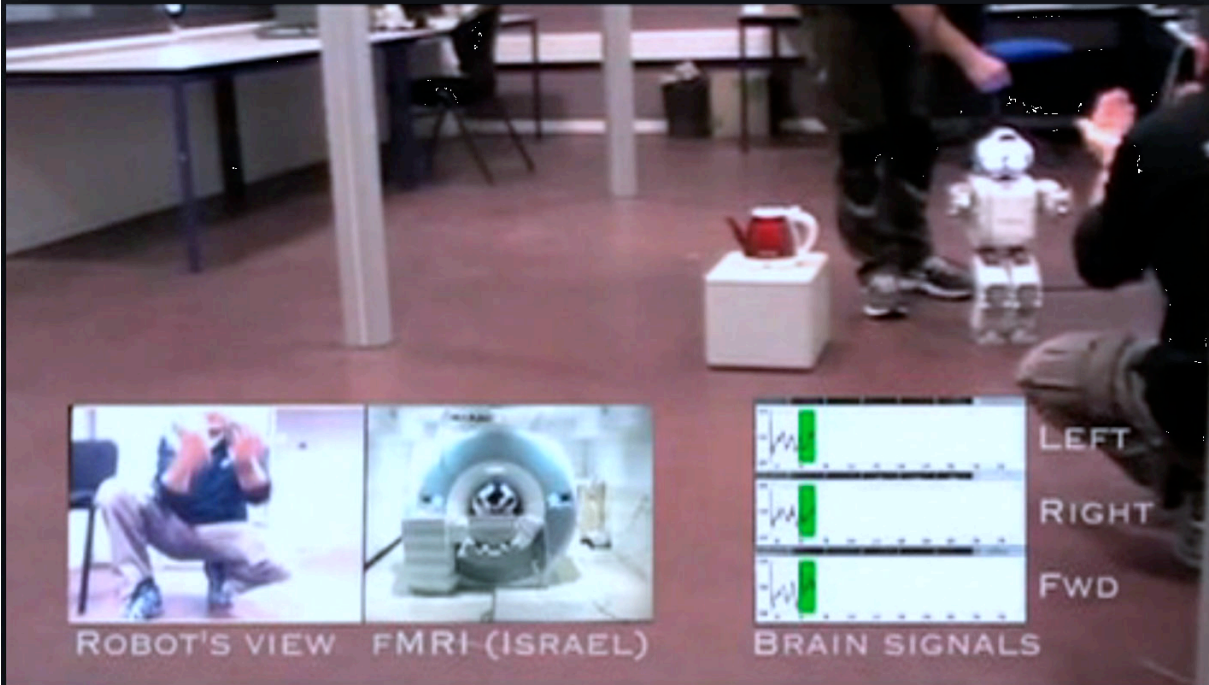
ExtremeTech

Controlling a robot surrogate, w

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Data Acquisition Bag:

The bag contains the measurements and NI devices.



The bag can be carried as a backpack or waist pack.



ECG and EMG Amplifier:

The electrodes are connected to the amplifier via a DE-9 connector.



Temperature Sensor:

Position on the back to measure body skin temperature



Motion Sensors:

Measure motions of each foot



ECG Electrodes:

Position on the sides of thorax under the arms.



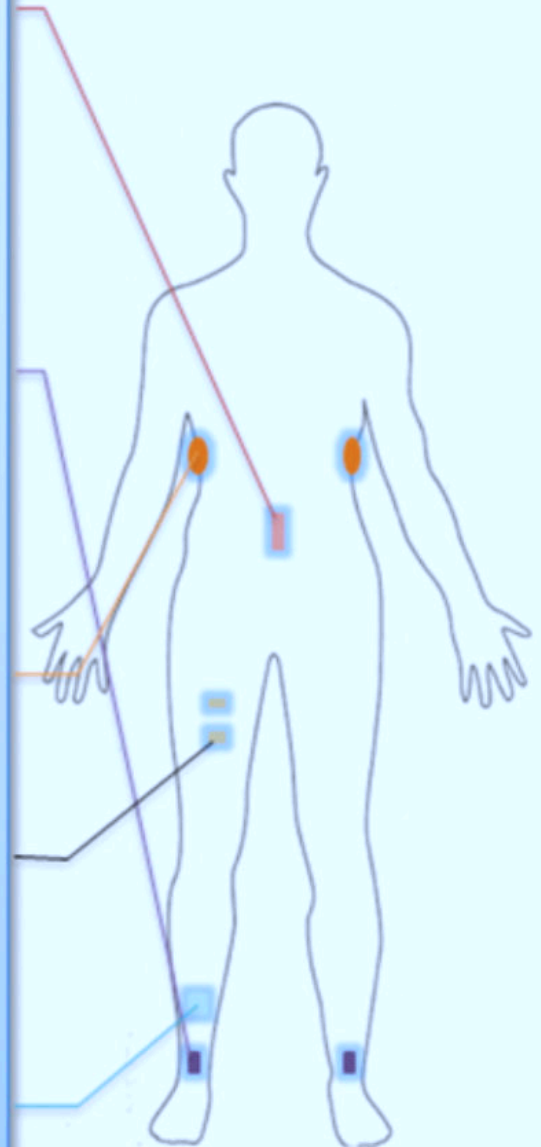
EMG Electrodes:

Position on quadriceps and on face to measure muscle activity and eye movement during day time and over night respectively.

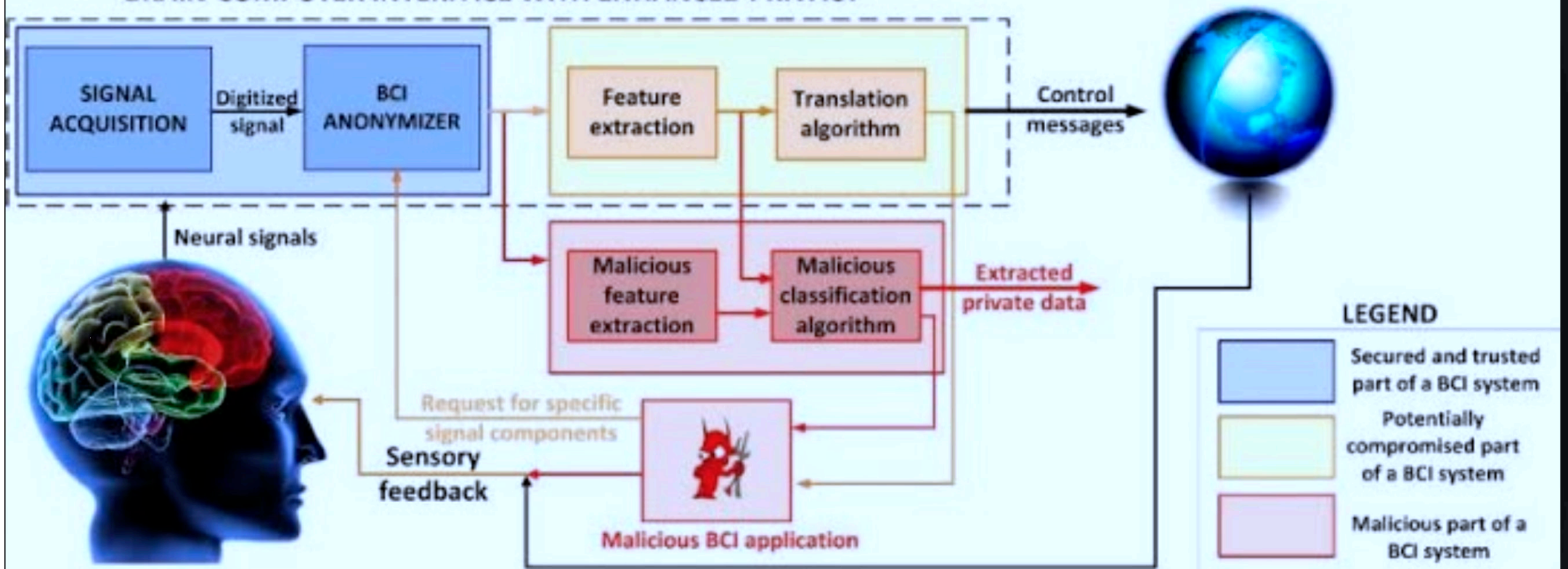


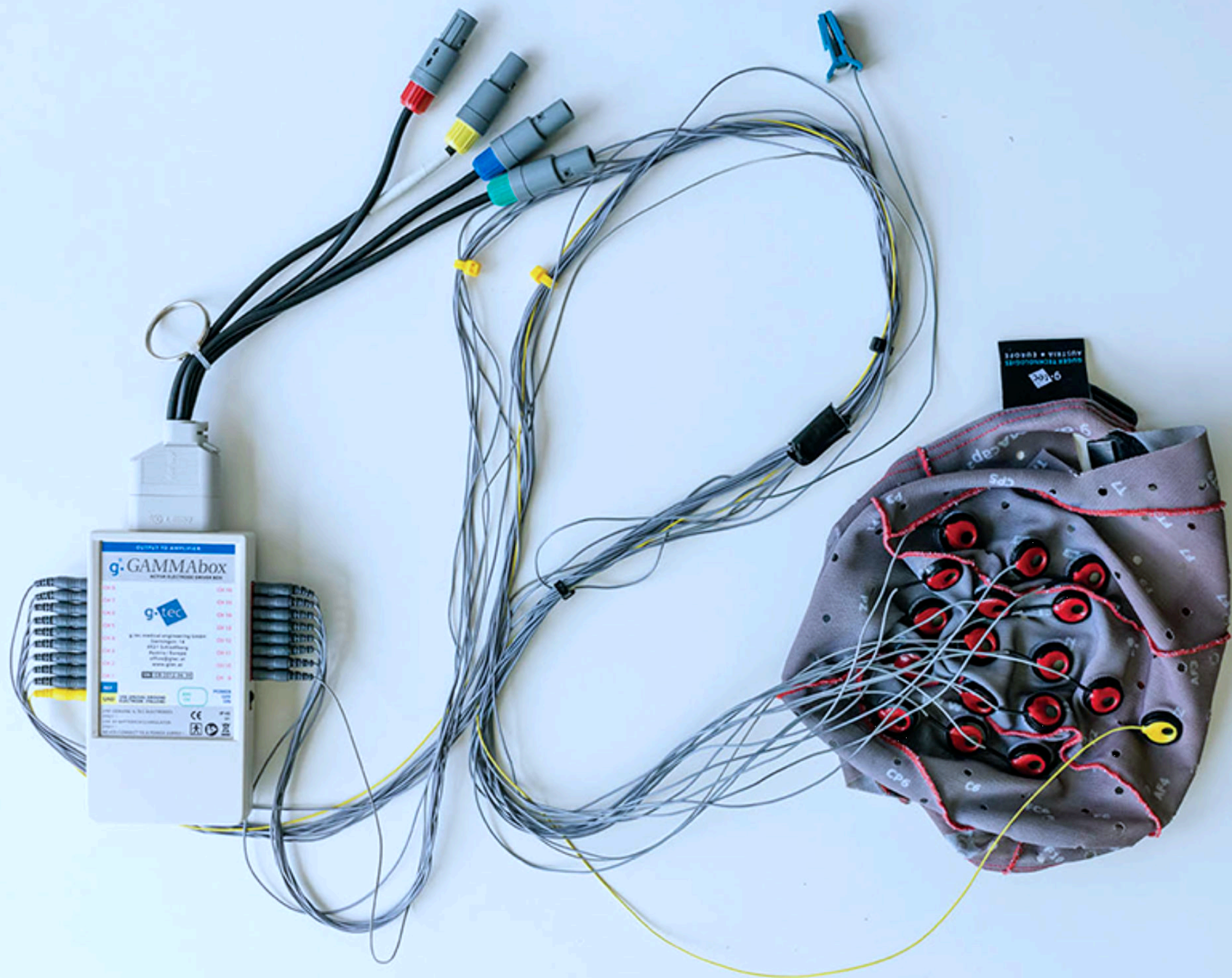
Neuroline Ground:

Position on right shank for the Driven-Right-Leg system

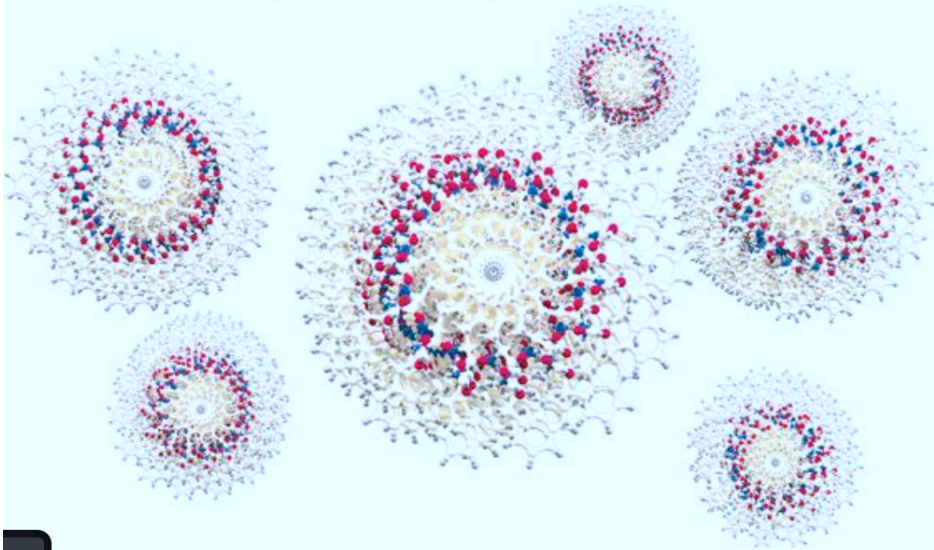


BRAIN-COMPUTER INTERFACE WITH ENHANCED PRIVACY

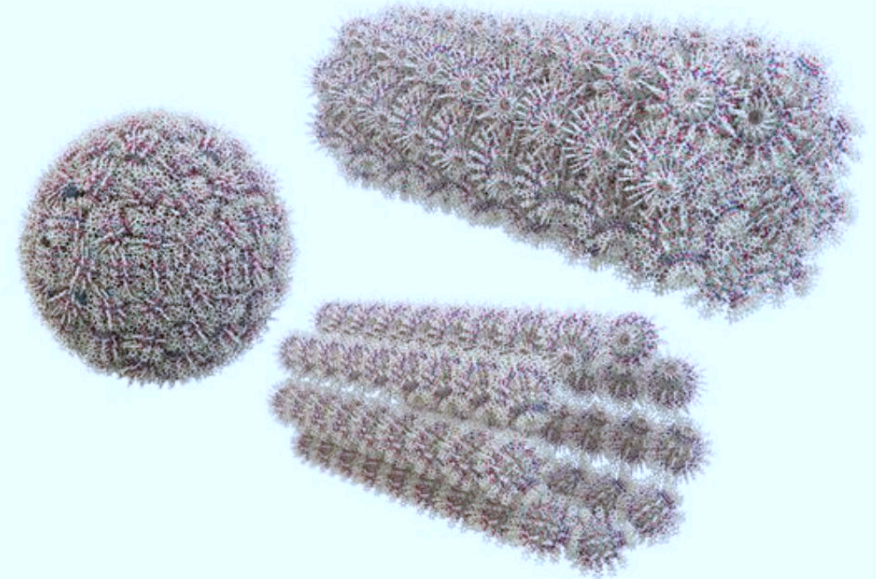




Oligomerized quantum dots

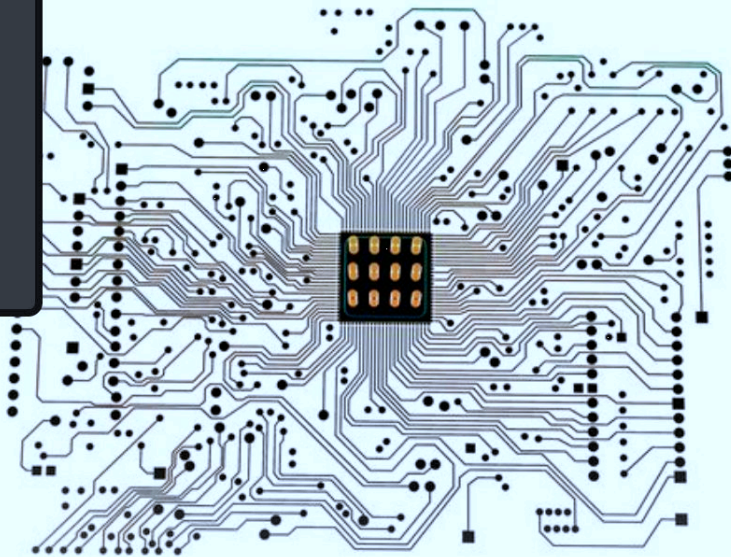


Quantum confined supramolecular structures

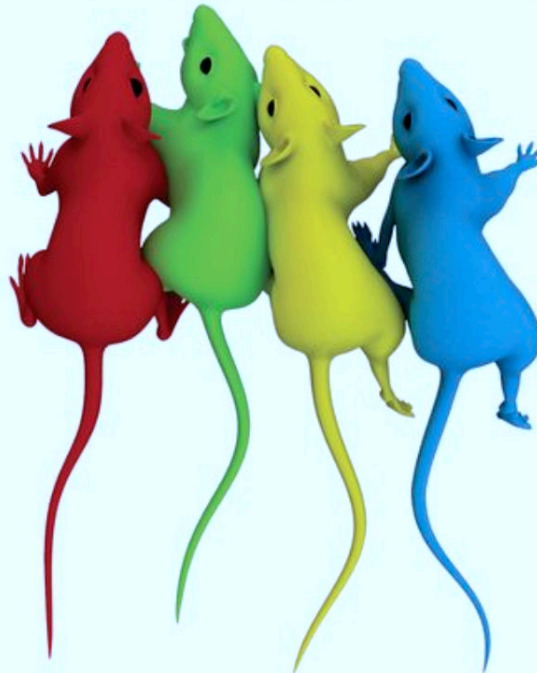


Self-assembly
→

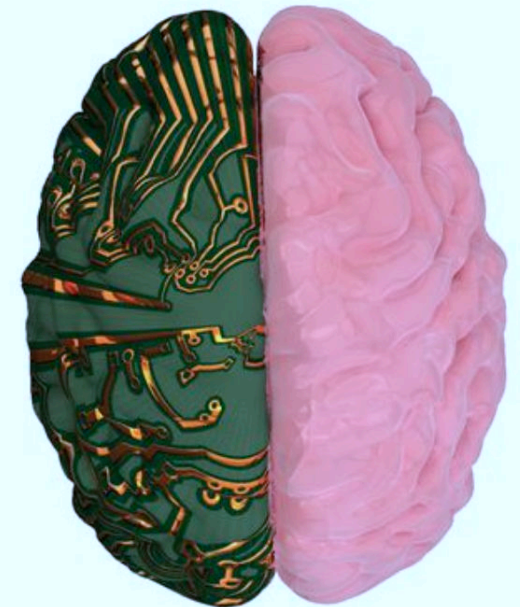
Bioinspired semiconductors

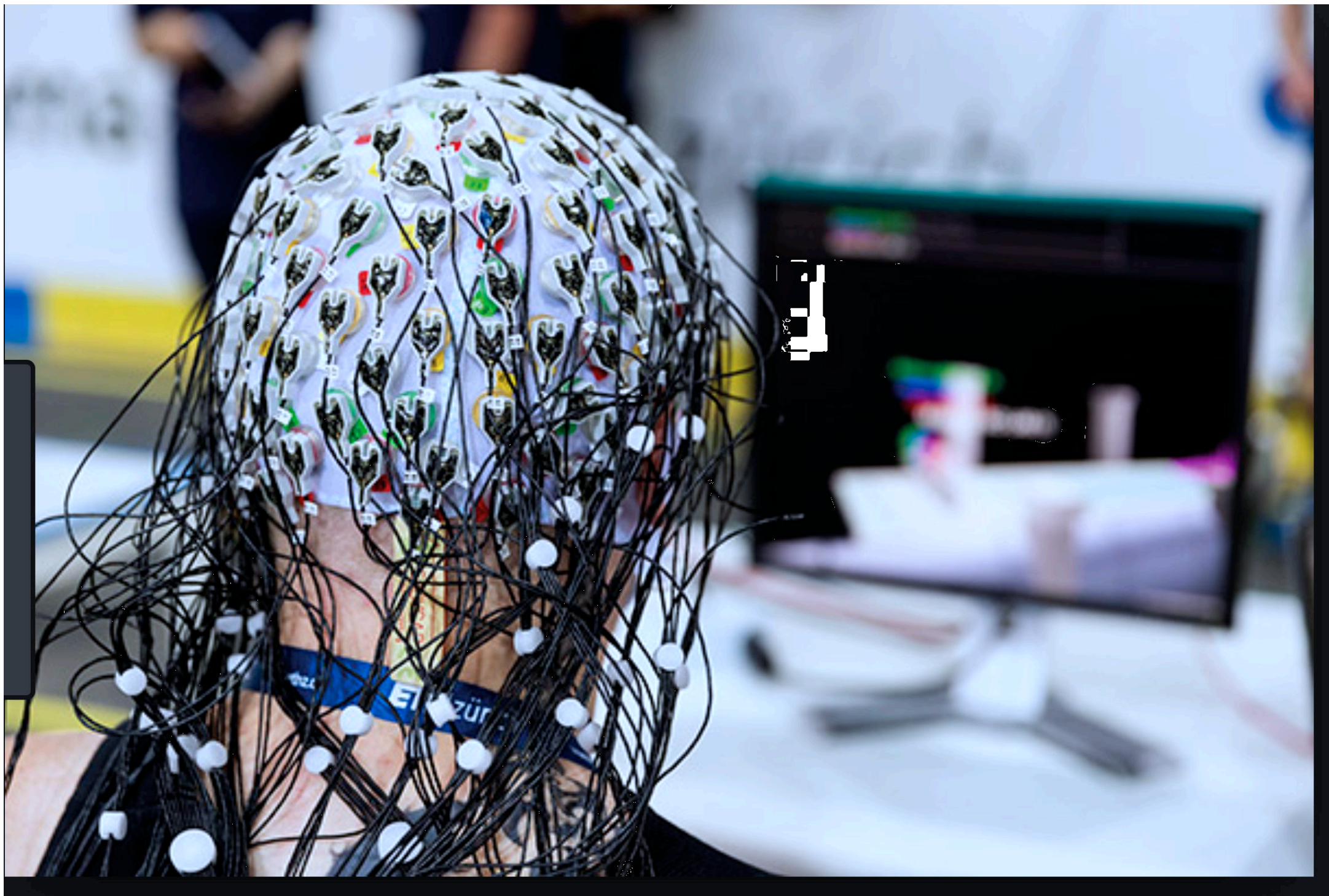


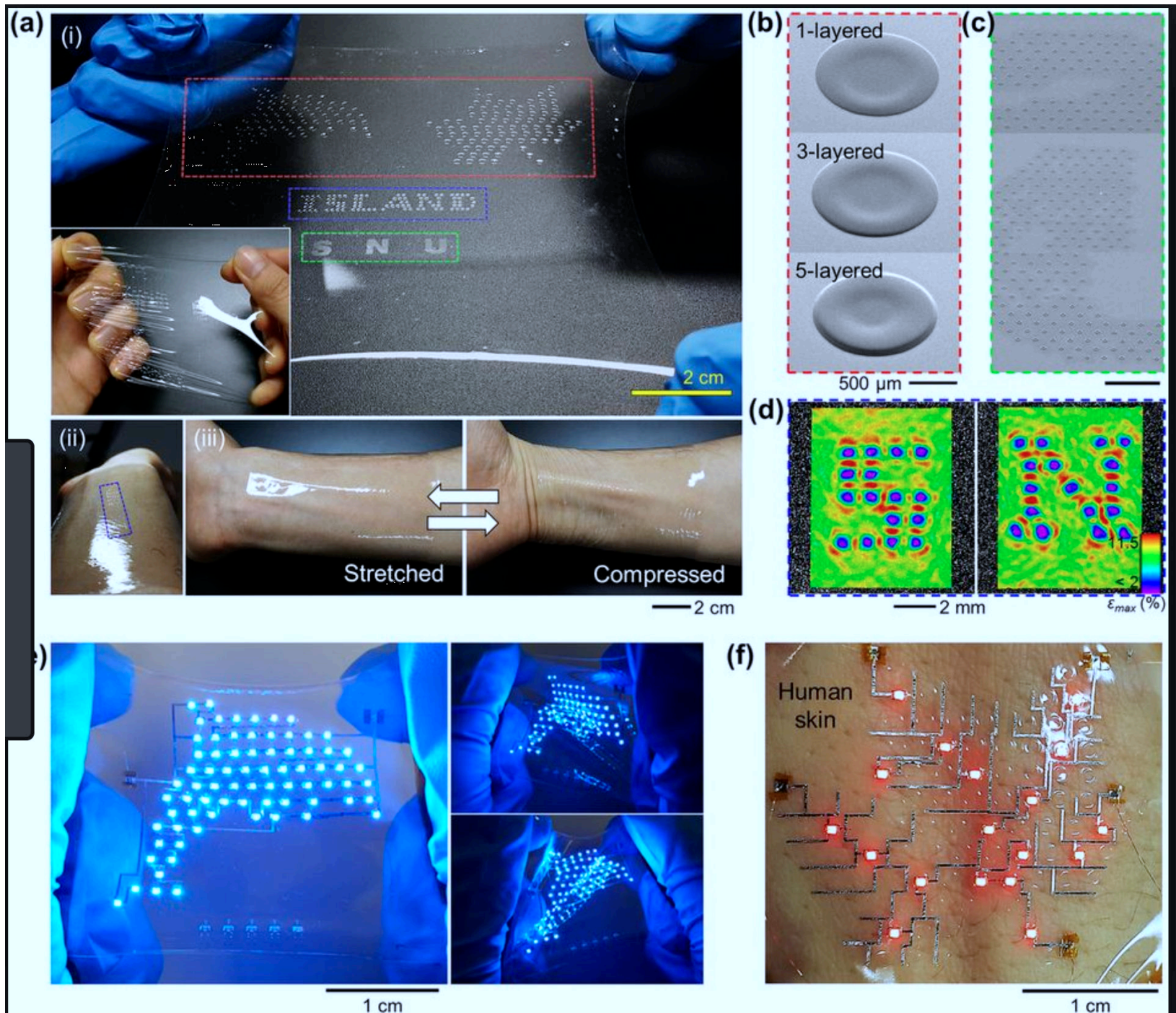
Real-time bioimaging and diagnosis



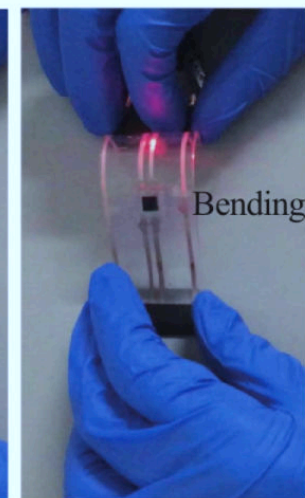
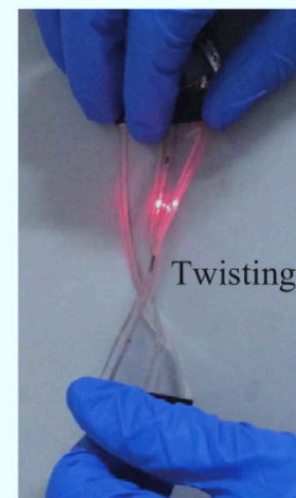
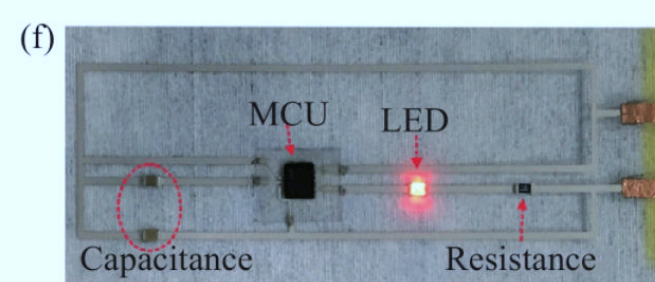
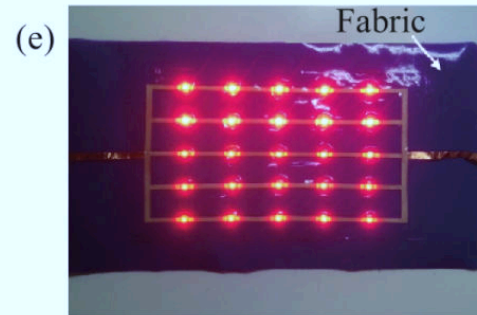
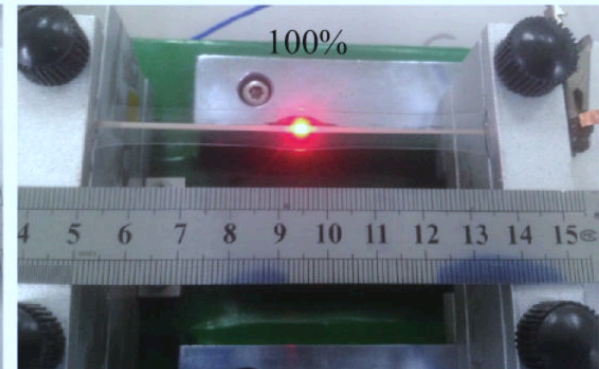
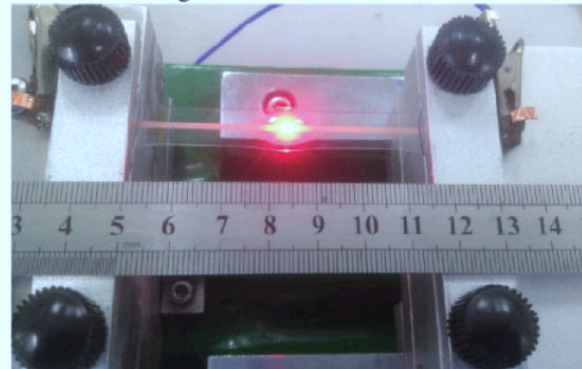
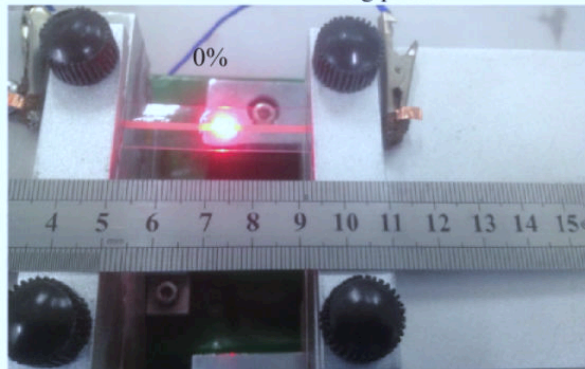
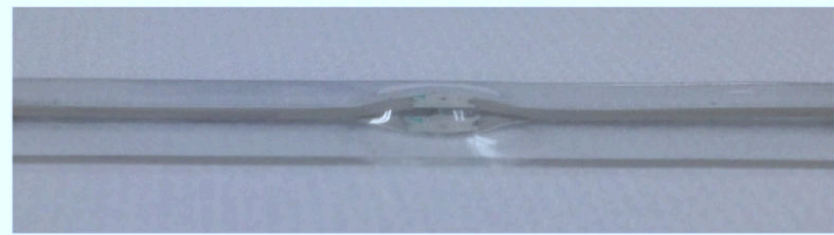
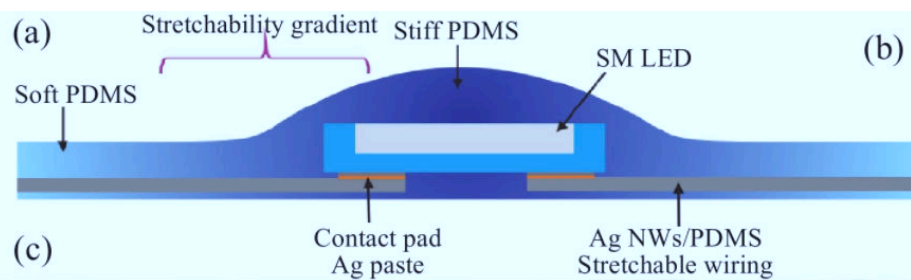
Bio-machine interface



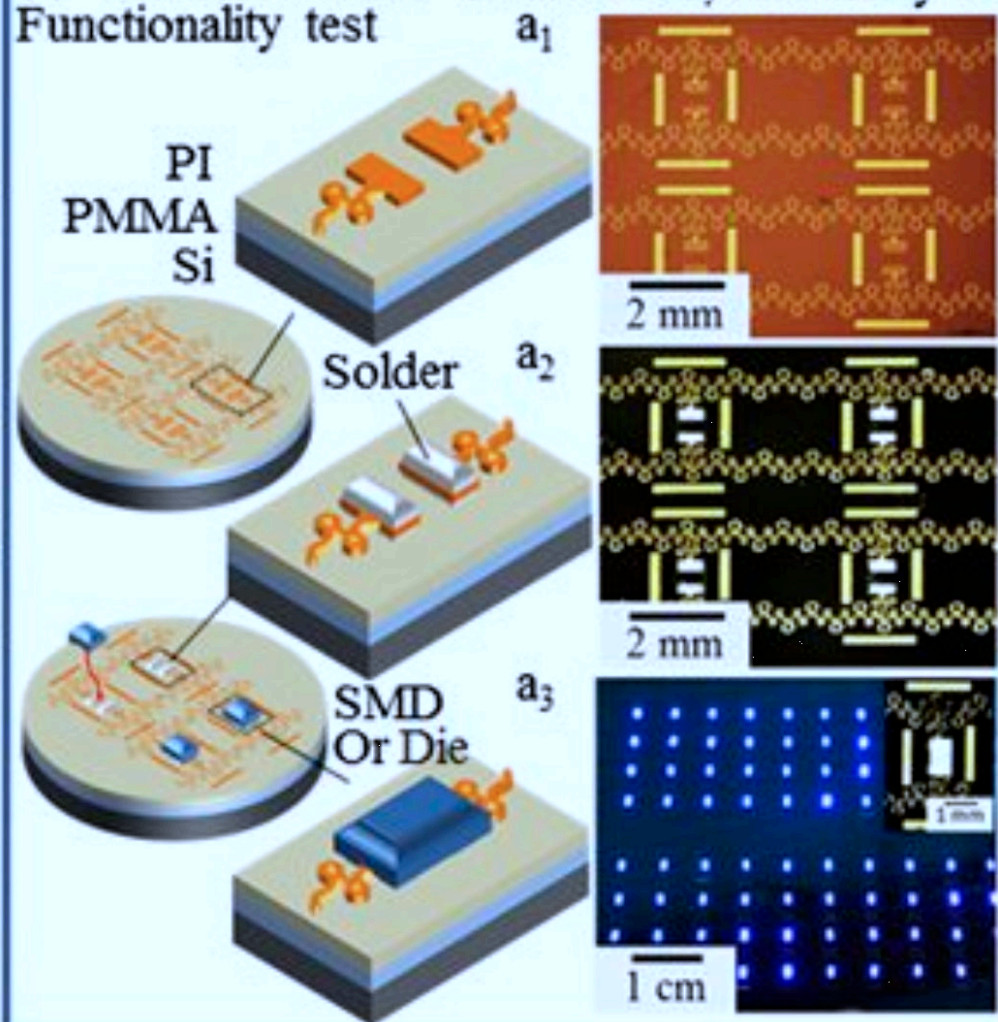




STRAIN ENGINEERED ELECTRONIC WRAP

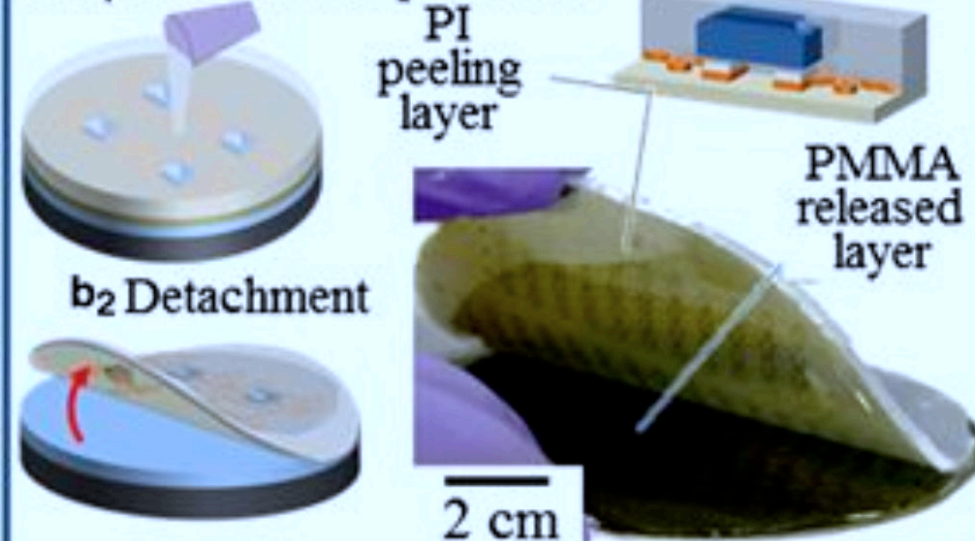


A "On-hard carrier" Fabrication, Assembly & Functionality test

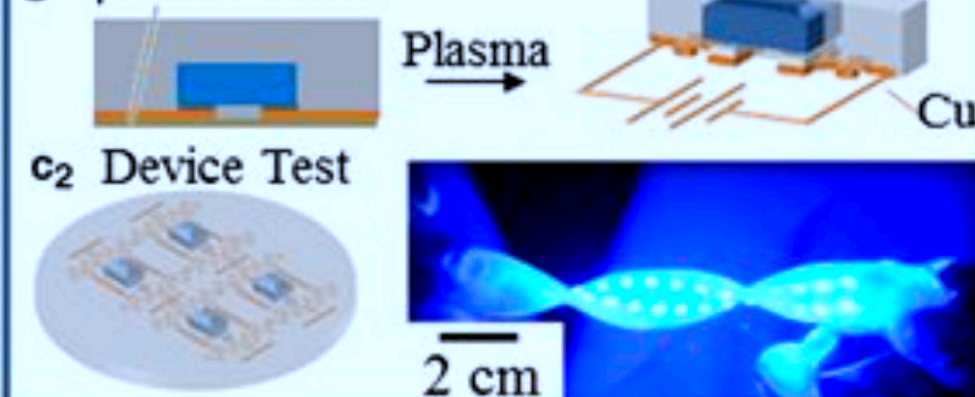


Soft rubber matrix, low-temperature process

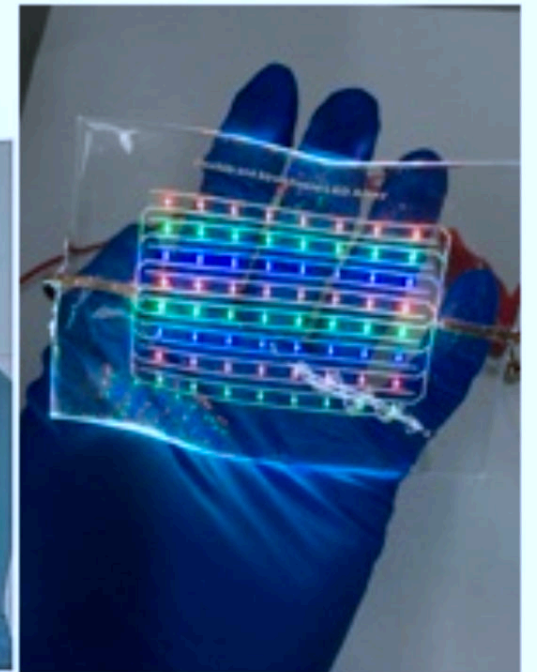
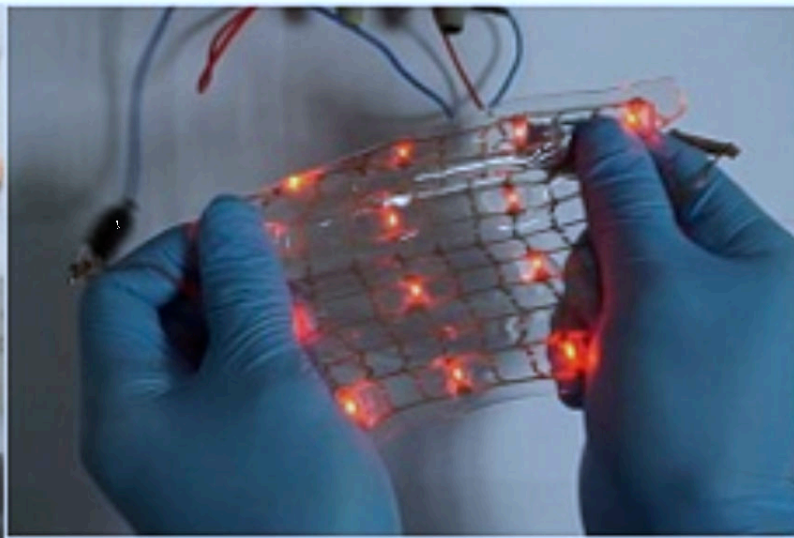
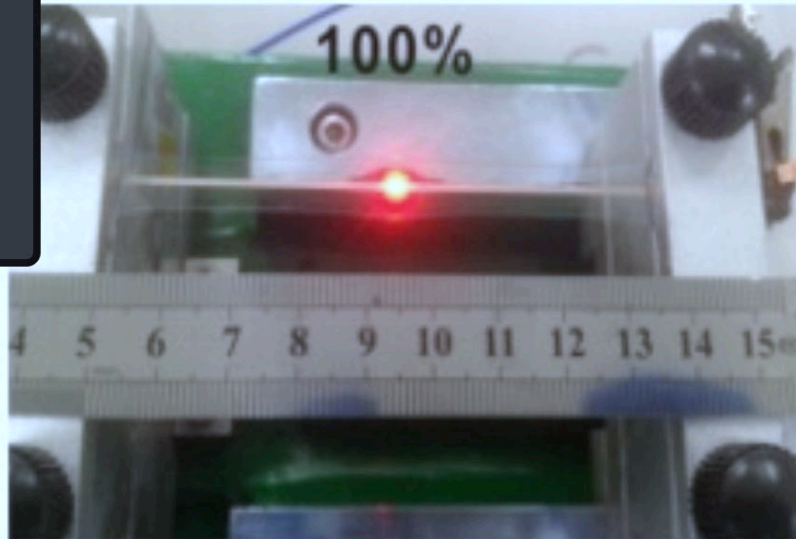
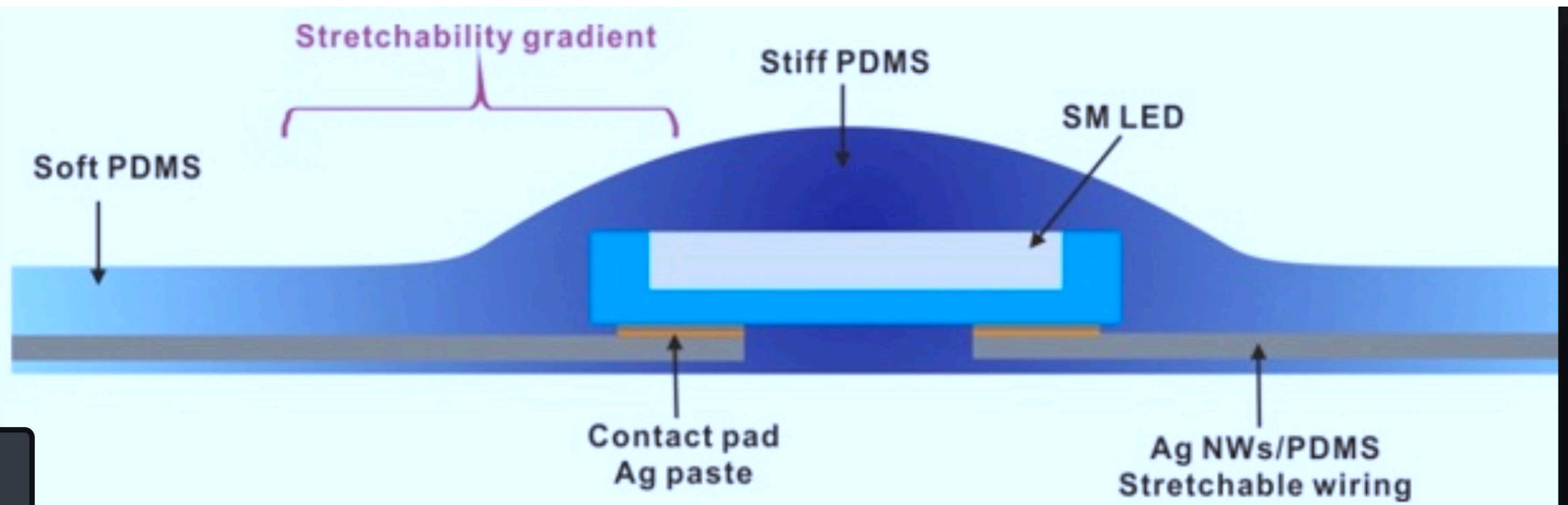
B b₁ Rubber Encapsulation

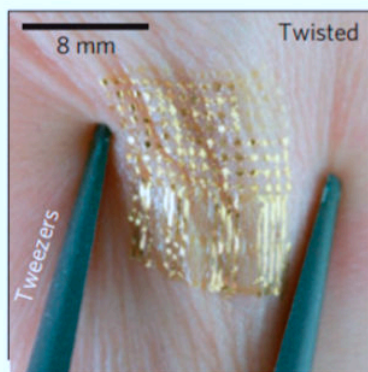
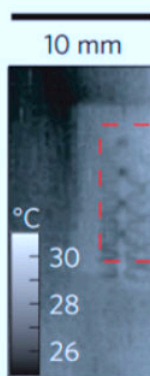
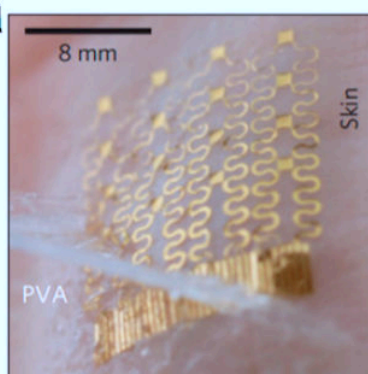
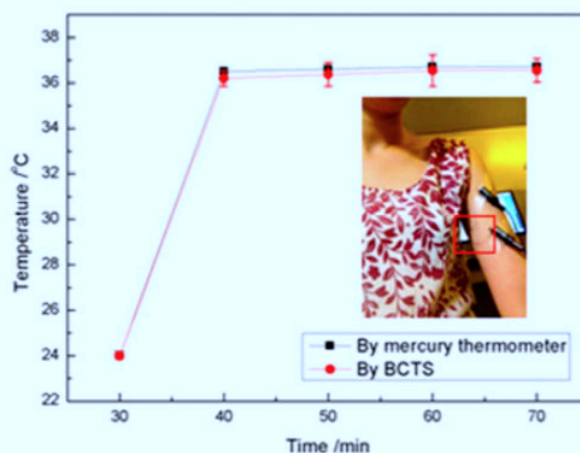
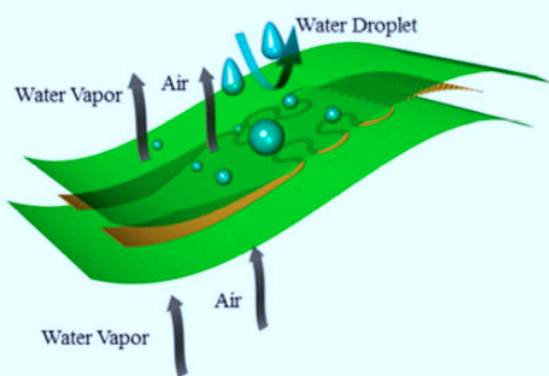
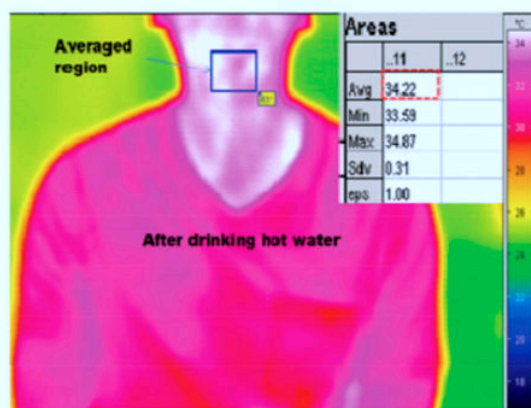
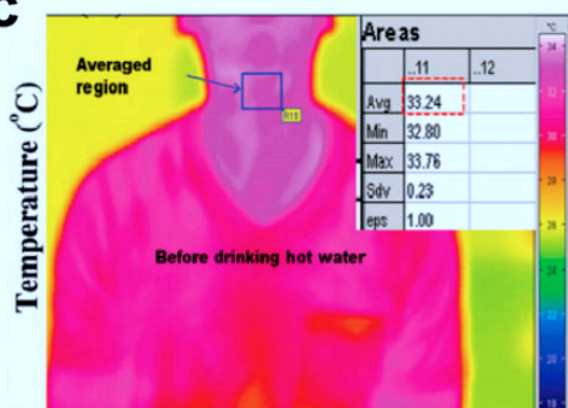


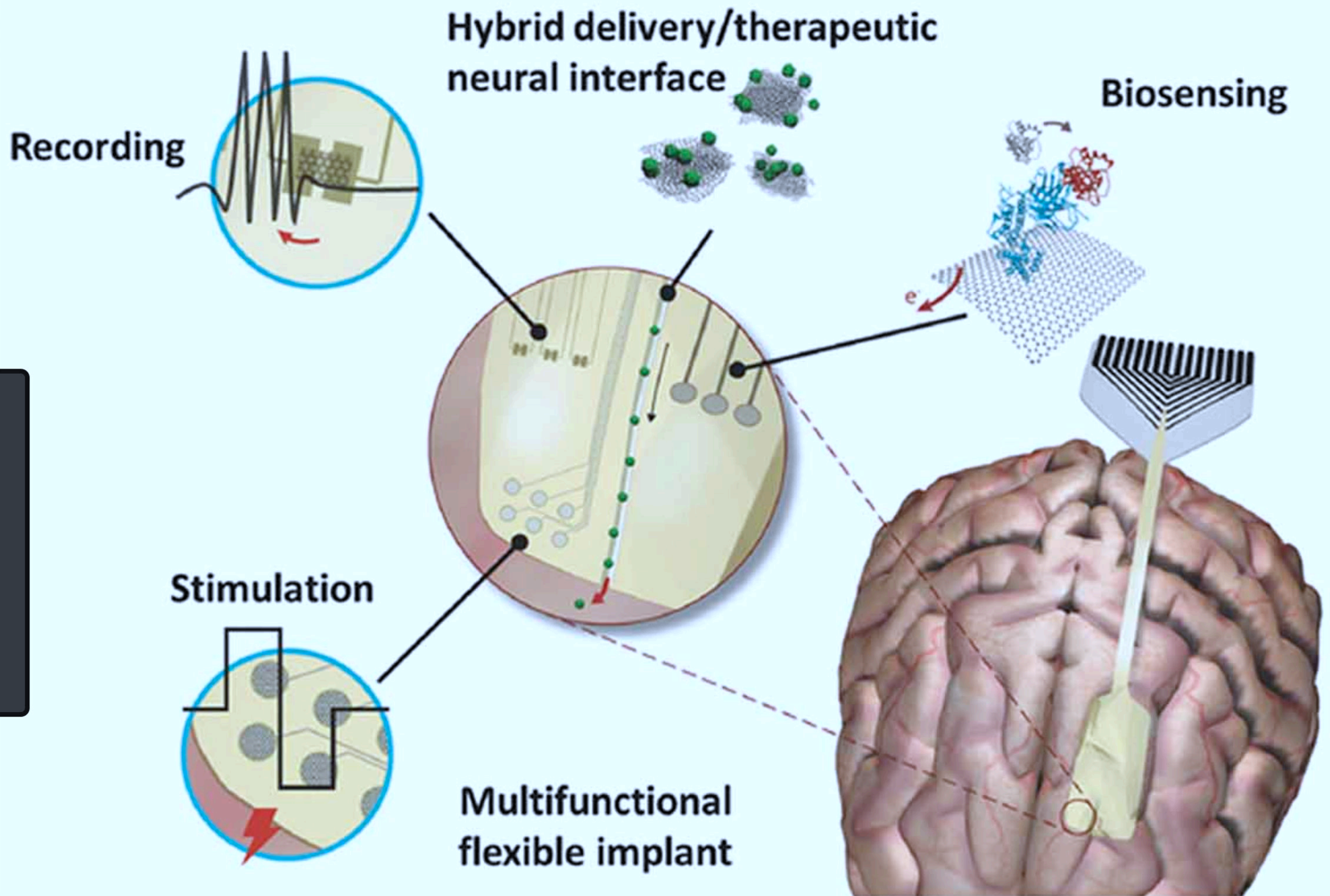
C c₁ PI Removal



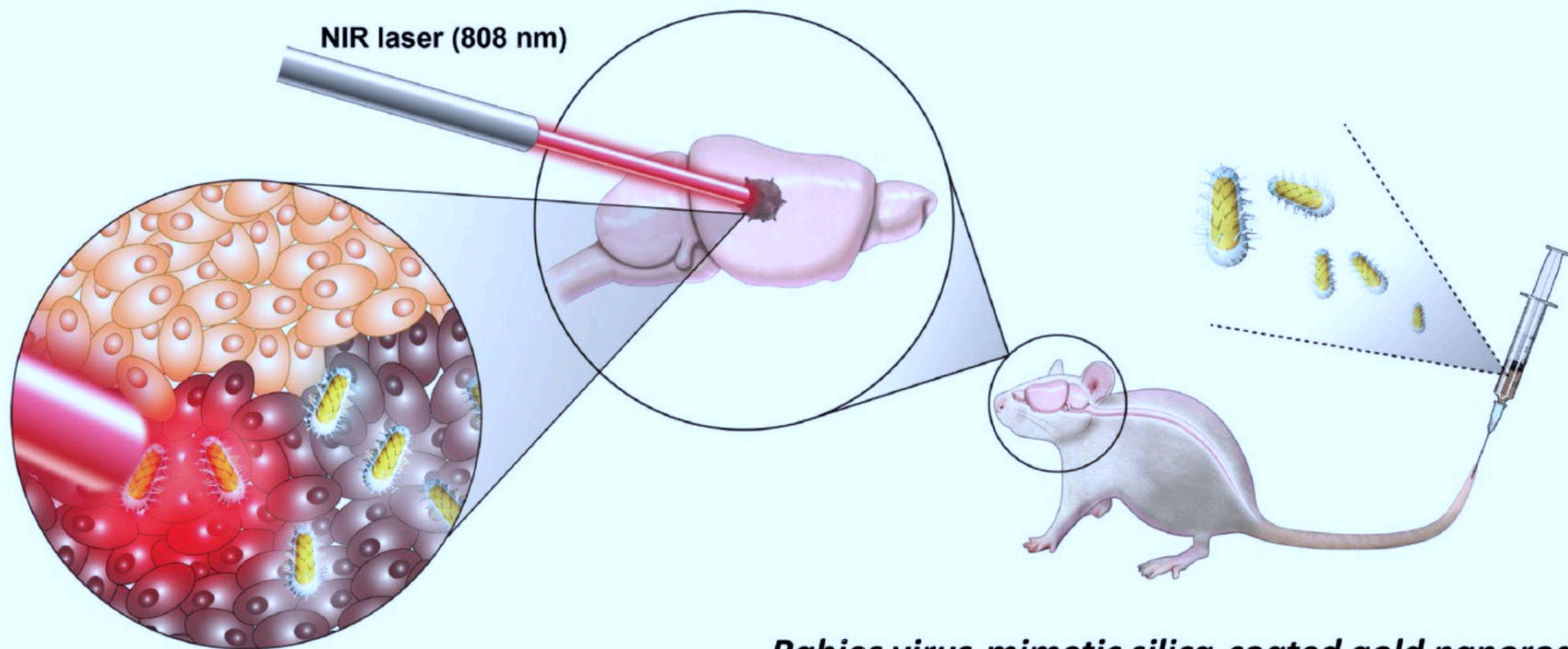
STRETCHABLE CIRCUITBOARD



a**b****c**

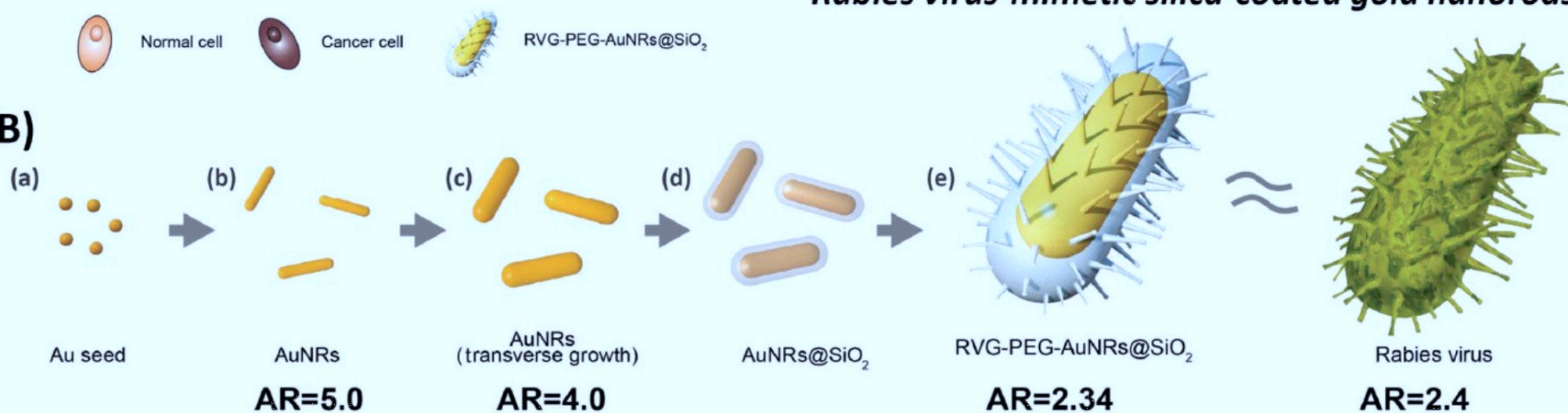


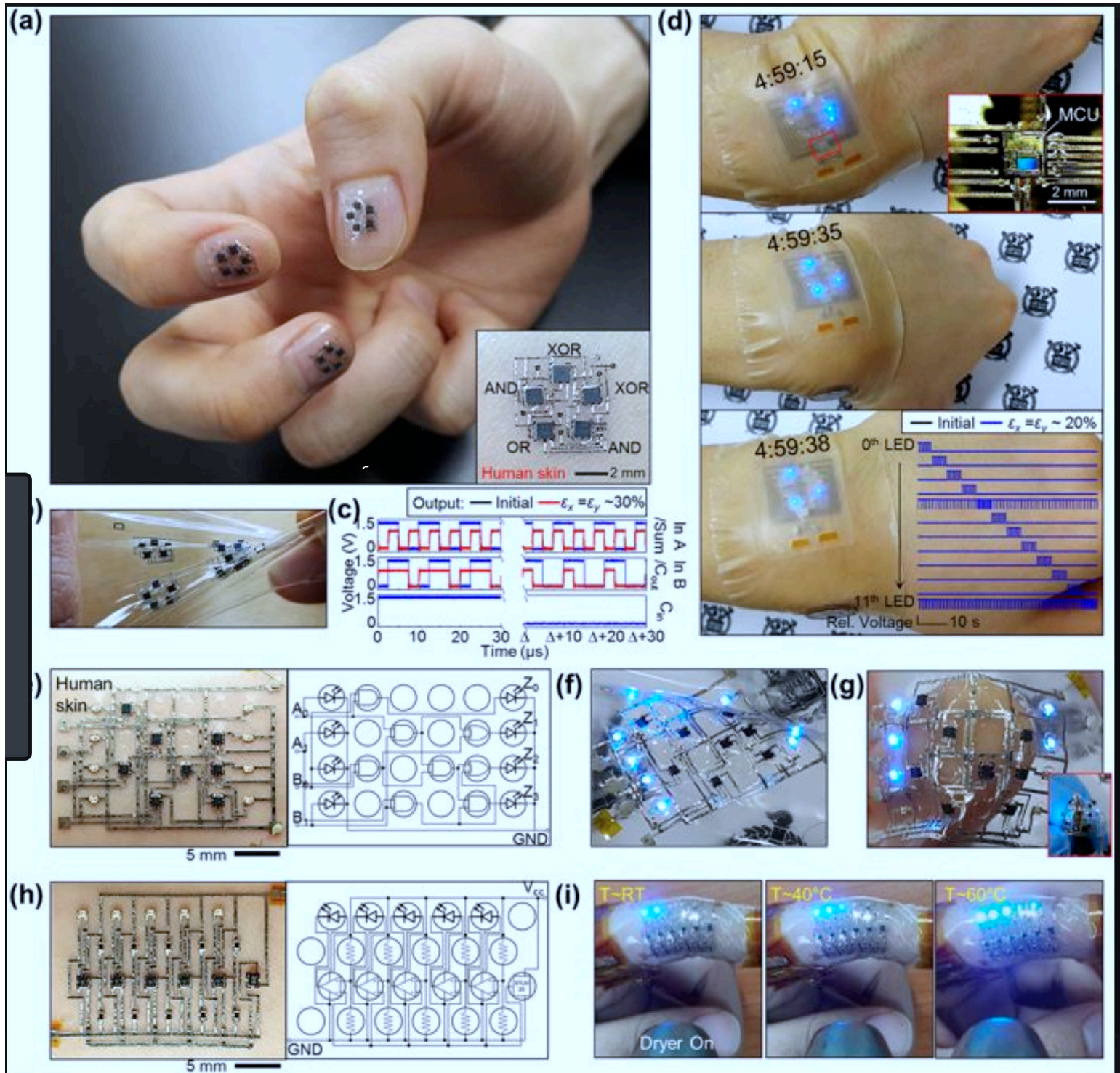
(A)



Rabies virus-mimetic silica-coated gold nanorods

(B)

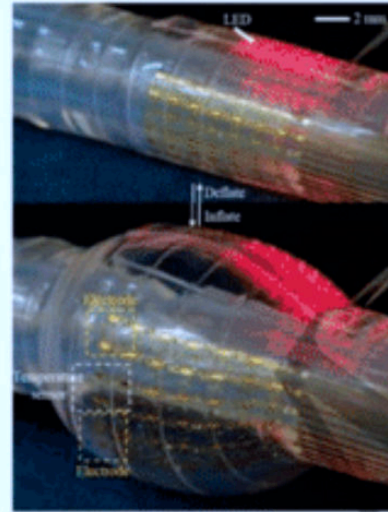




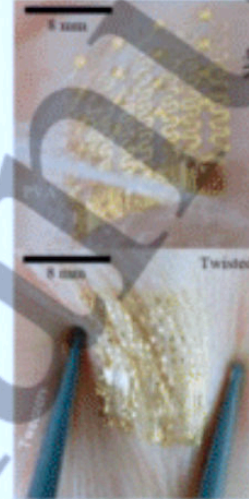
(b) Prosthetic hand



(c) Biomedical instrument



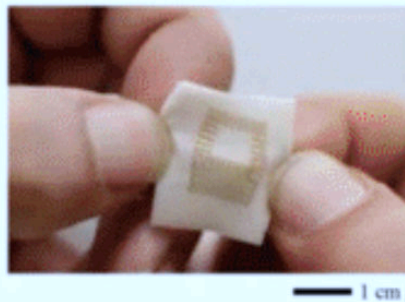
(d) Healthcare monitor



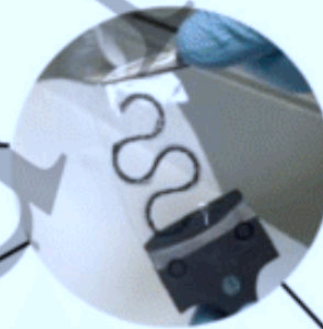
(e) Wearable devices



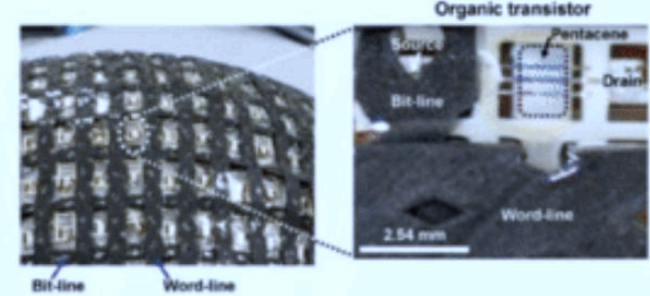
(f) Stretchable chemical sensor



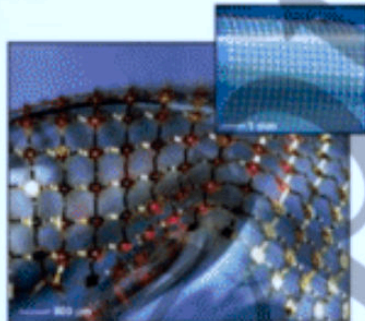
(a) Stretchable Interconnects



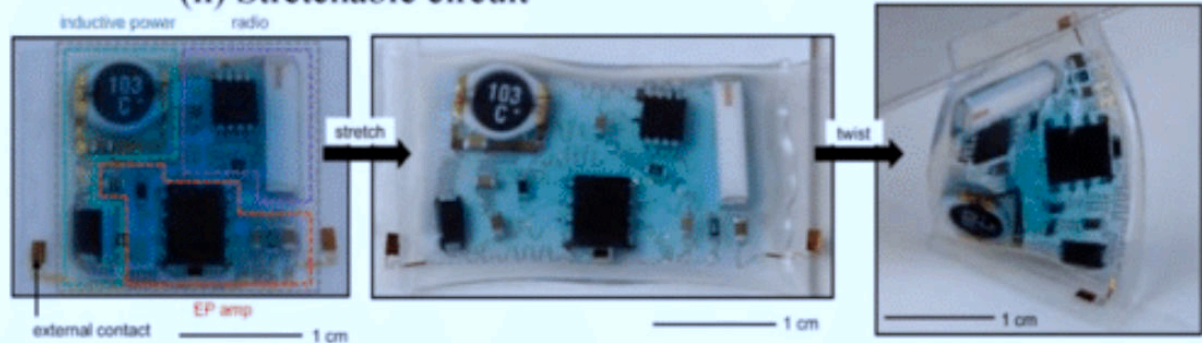
(i) Stretchable transistor matrix

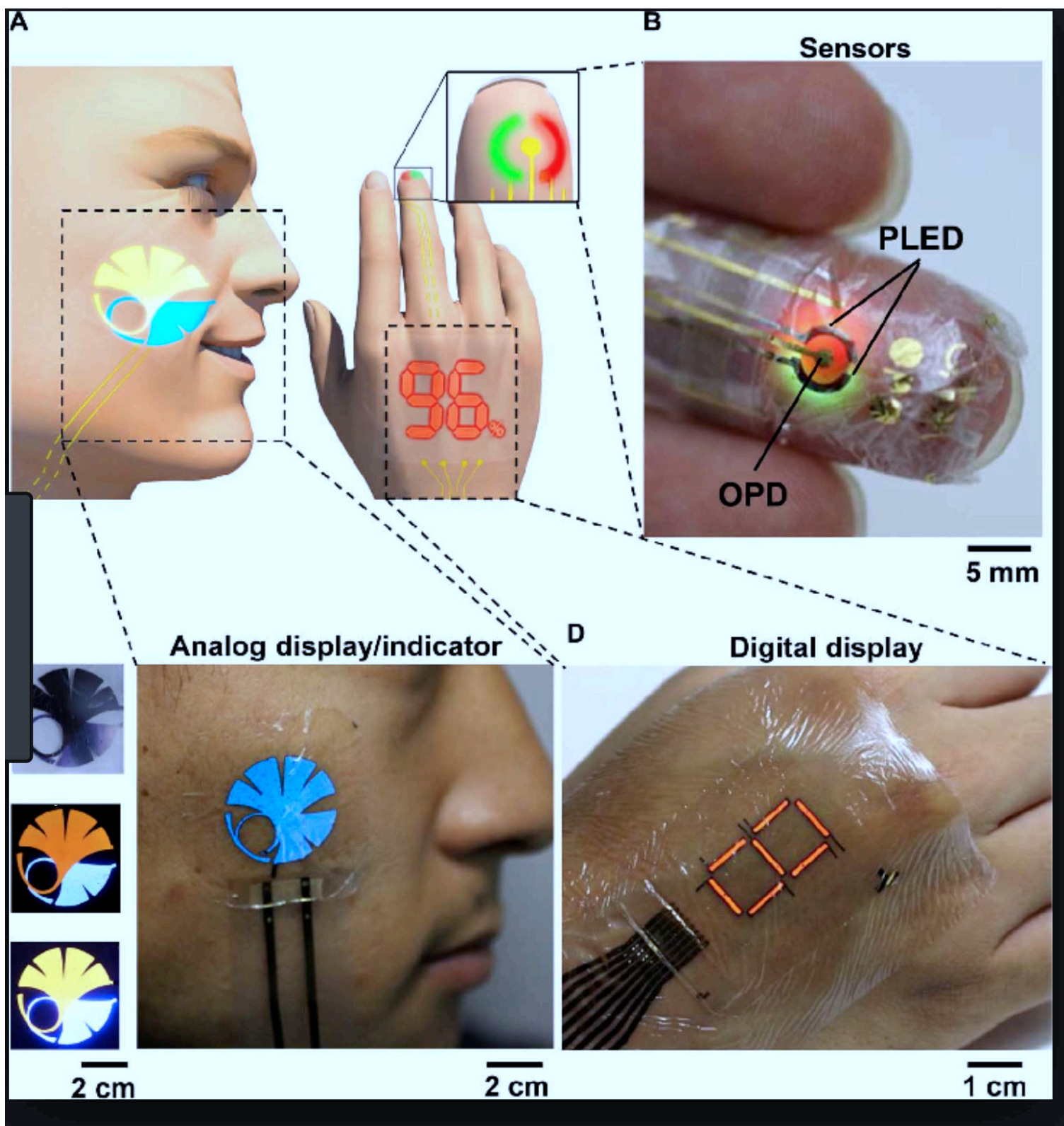


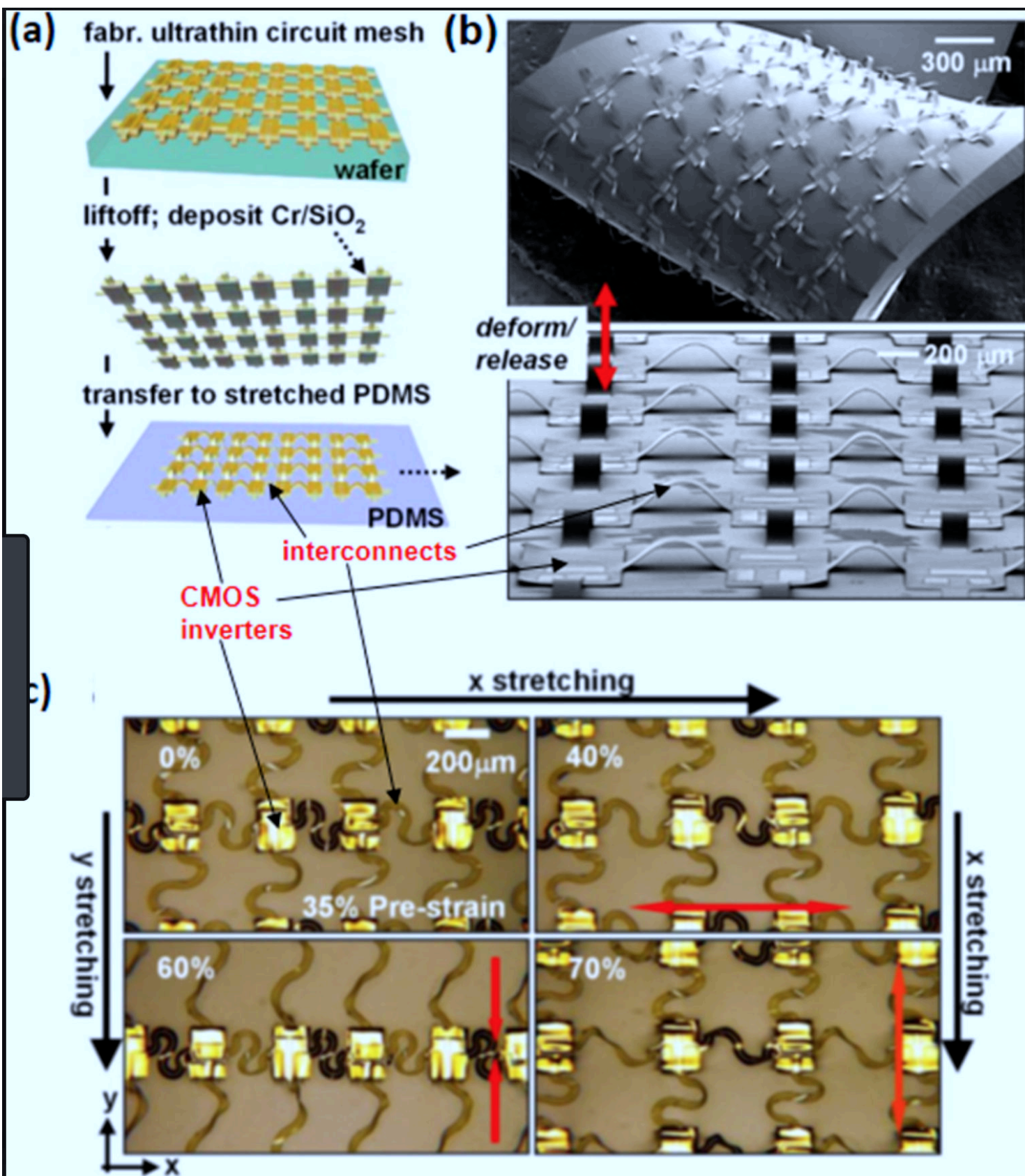
(g) Stretchable display



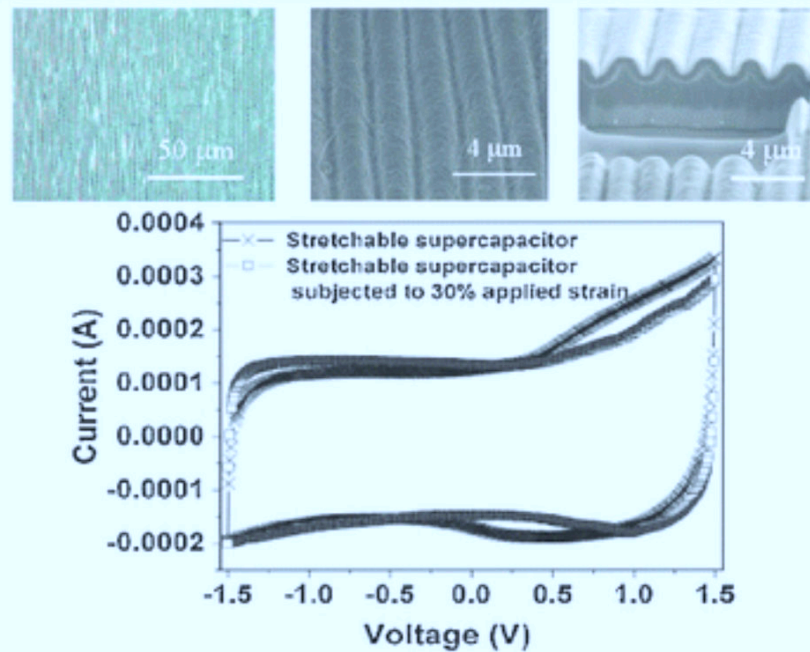
(h) Stretchable circuit



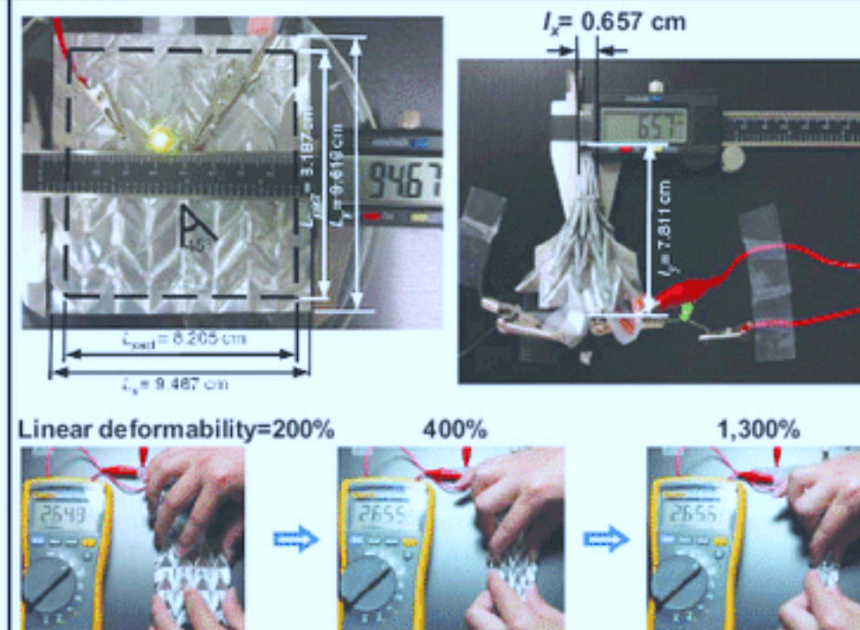




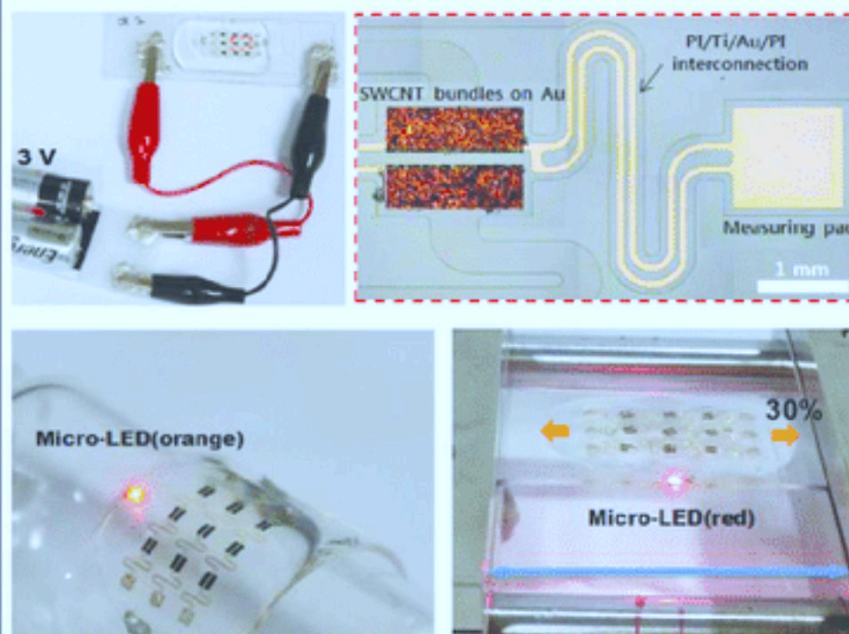
(a) Wavy, wrinkled Design



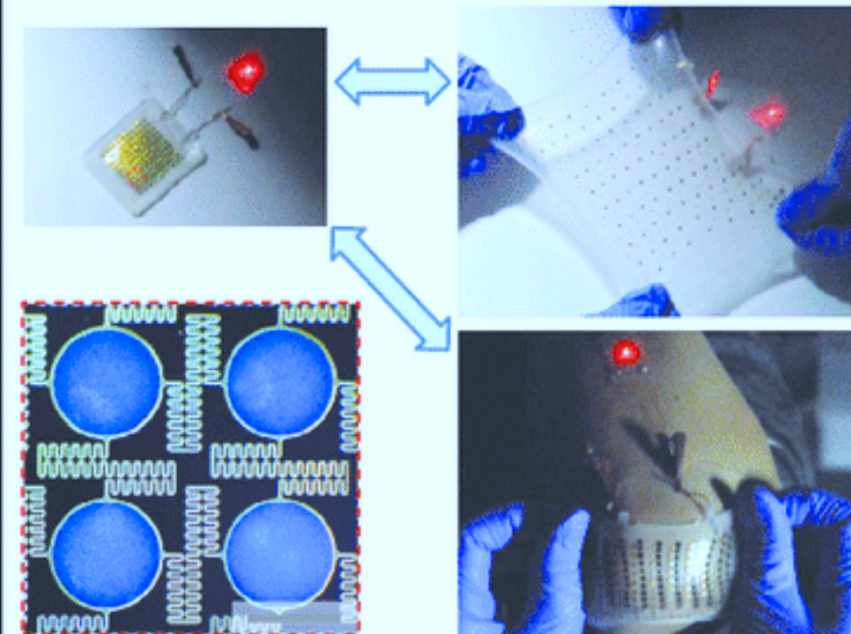
(b) Origami Design

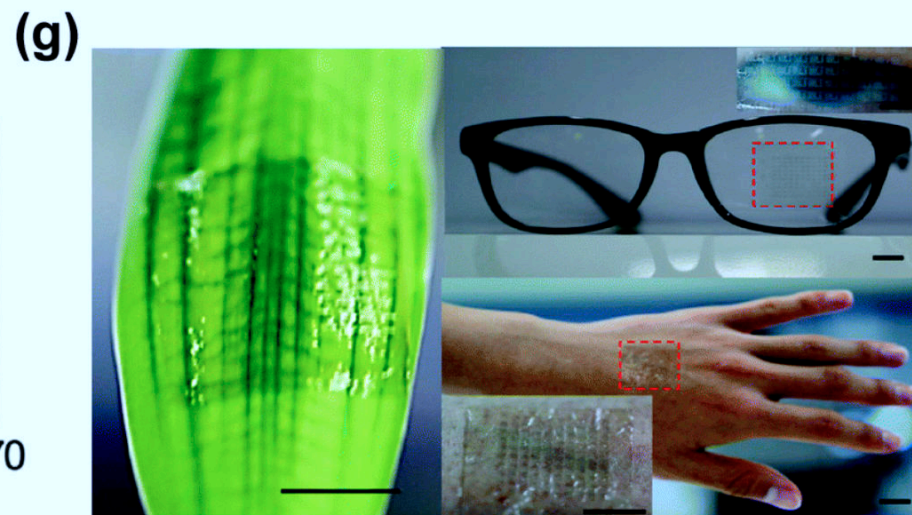
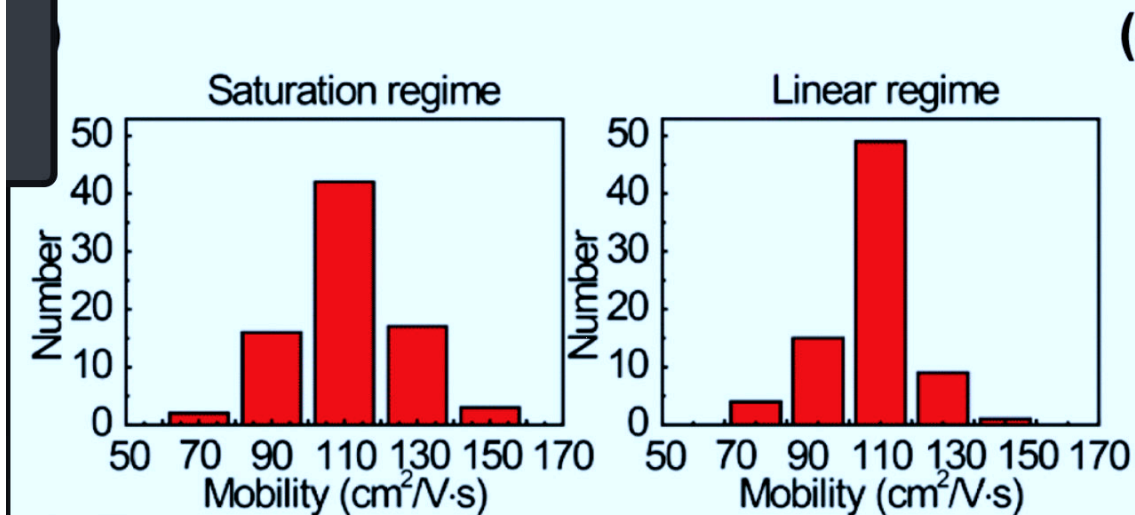
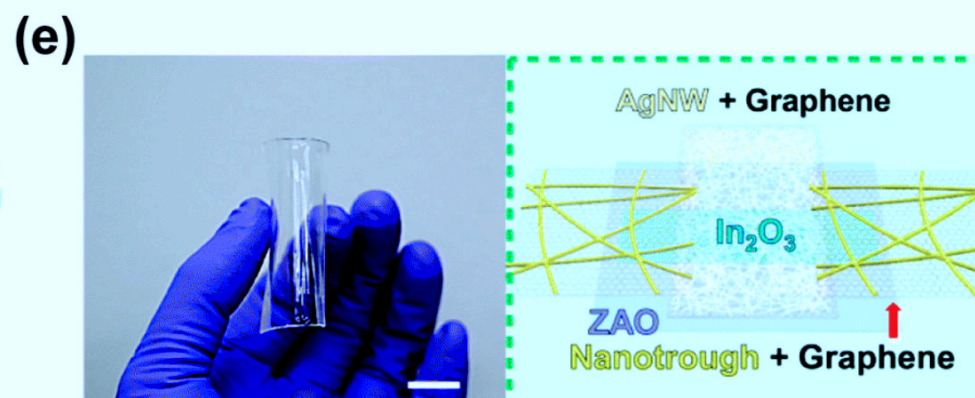
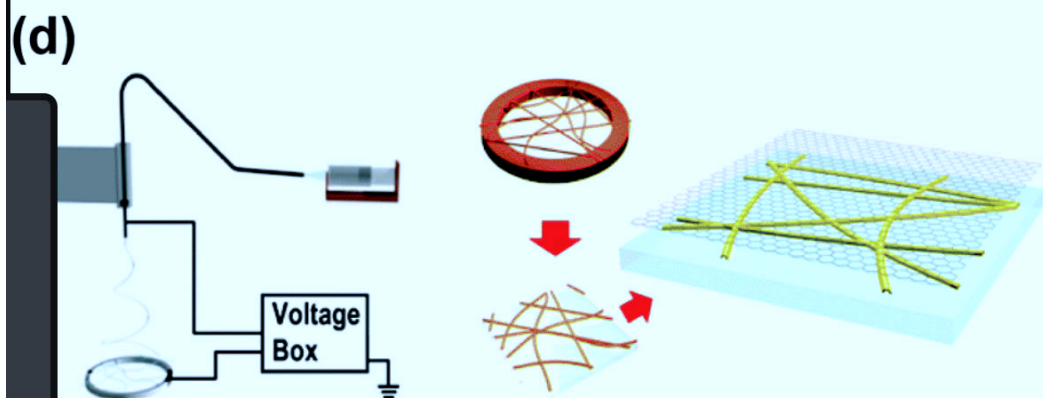
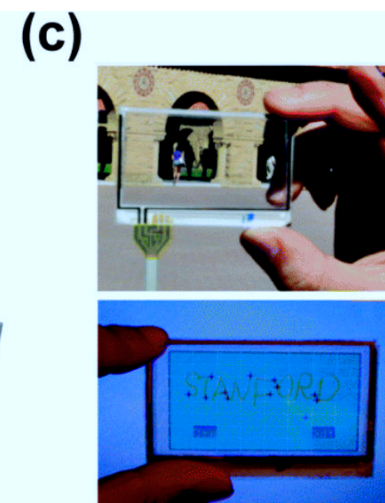
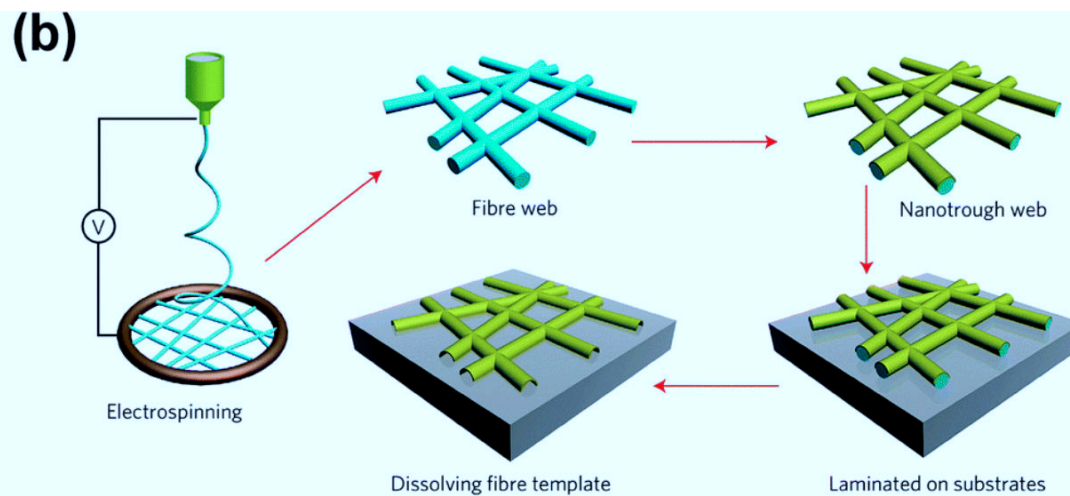
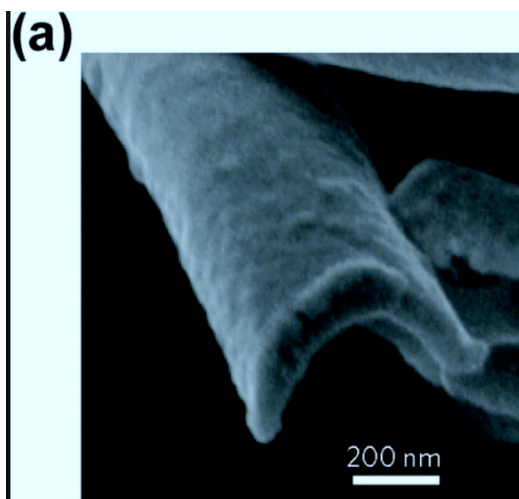


(c) Serpentine bridge-island design

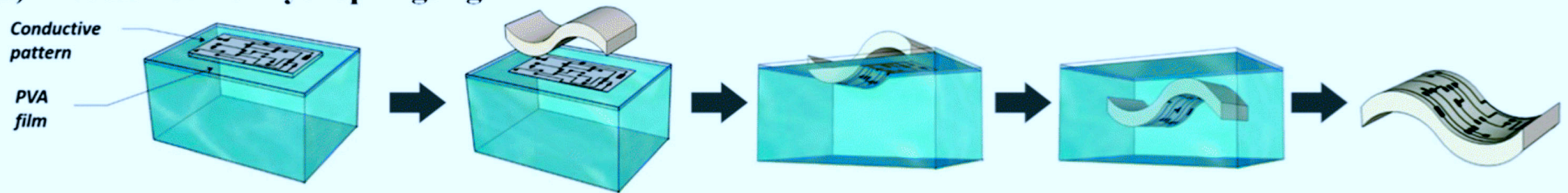


(d) Fractal inspired bridge-island design





(a) Process flow for hydropringing

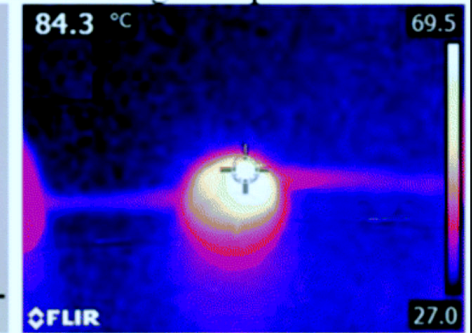
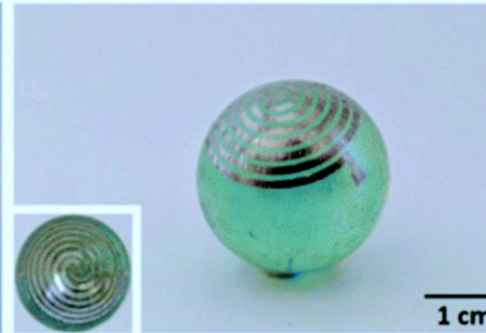
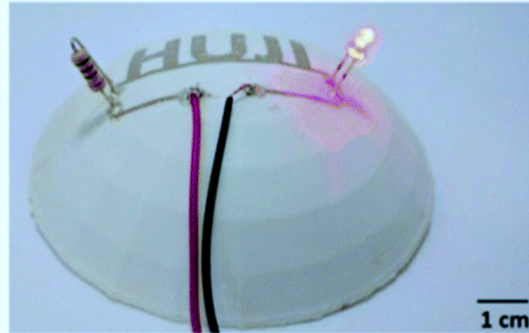
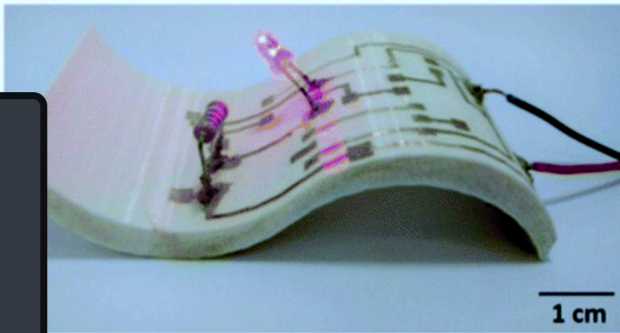


(b) Electric circuit on curve surface

Electric circuit on a wave structures

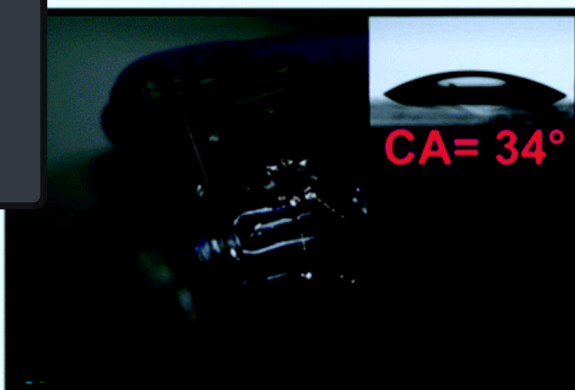
Electric circuit on a dome structure

Heater device transferred onto a glass sphere

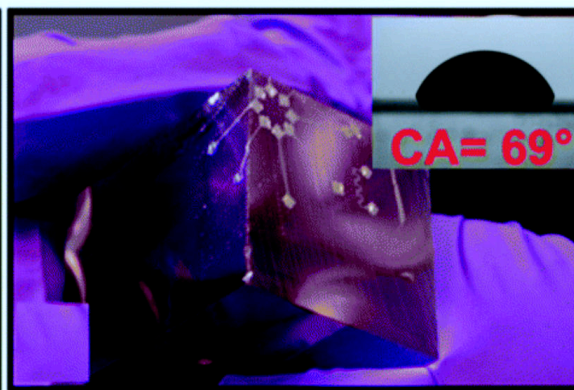


(c) Patterns on various surfaces

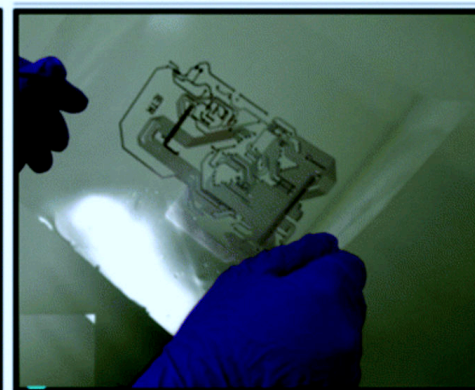
Glass beaker



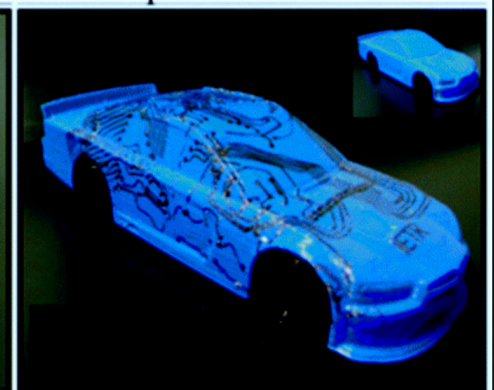
PMMA cube

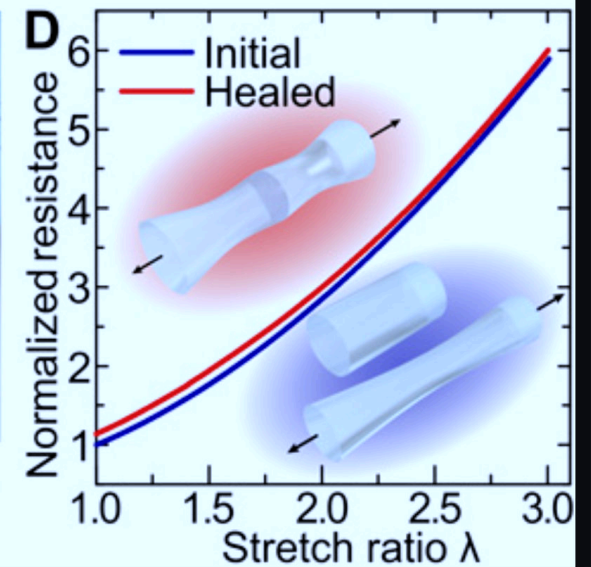
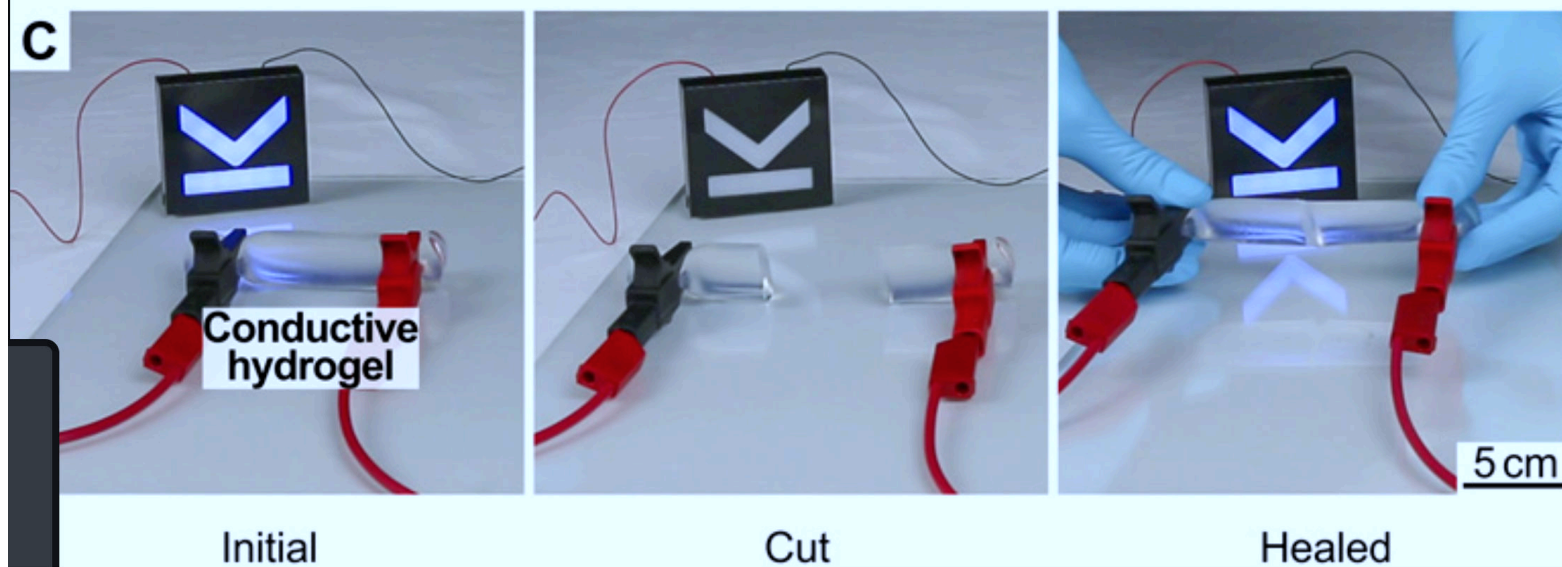
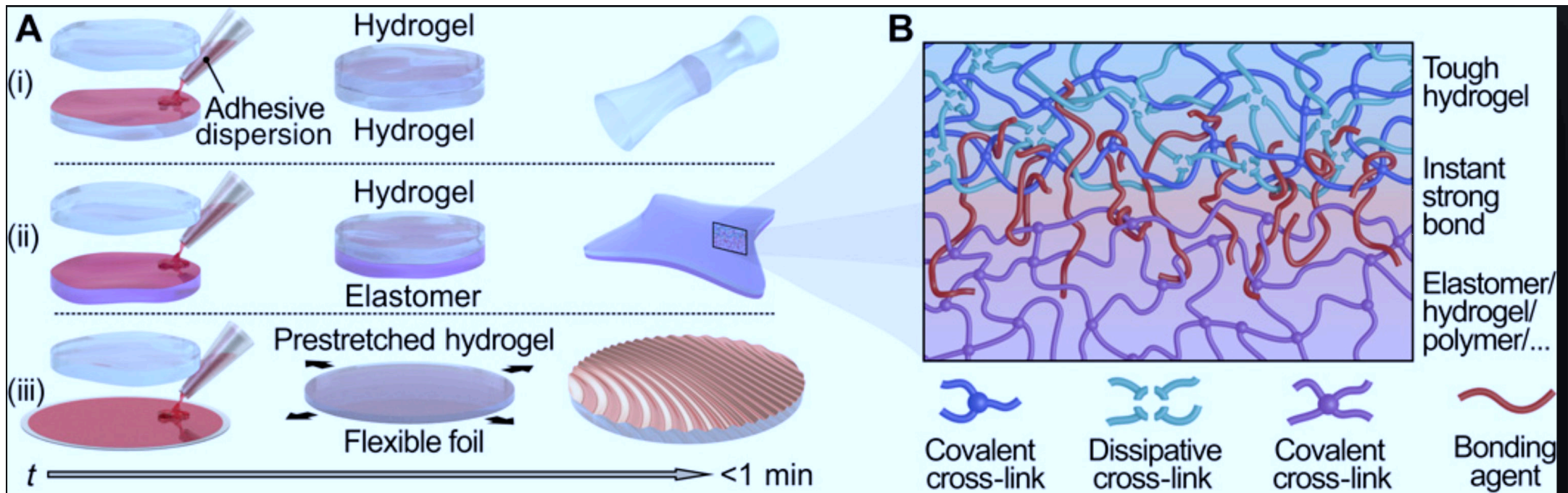


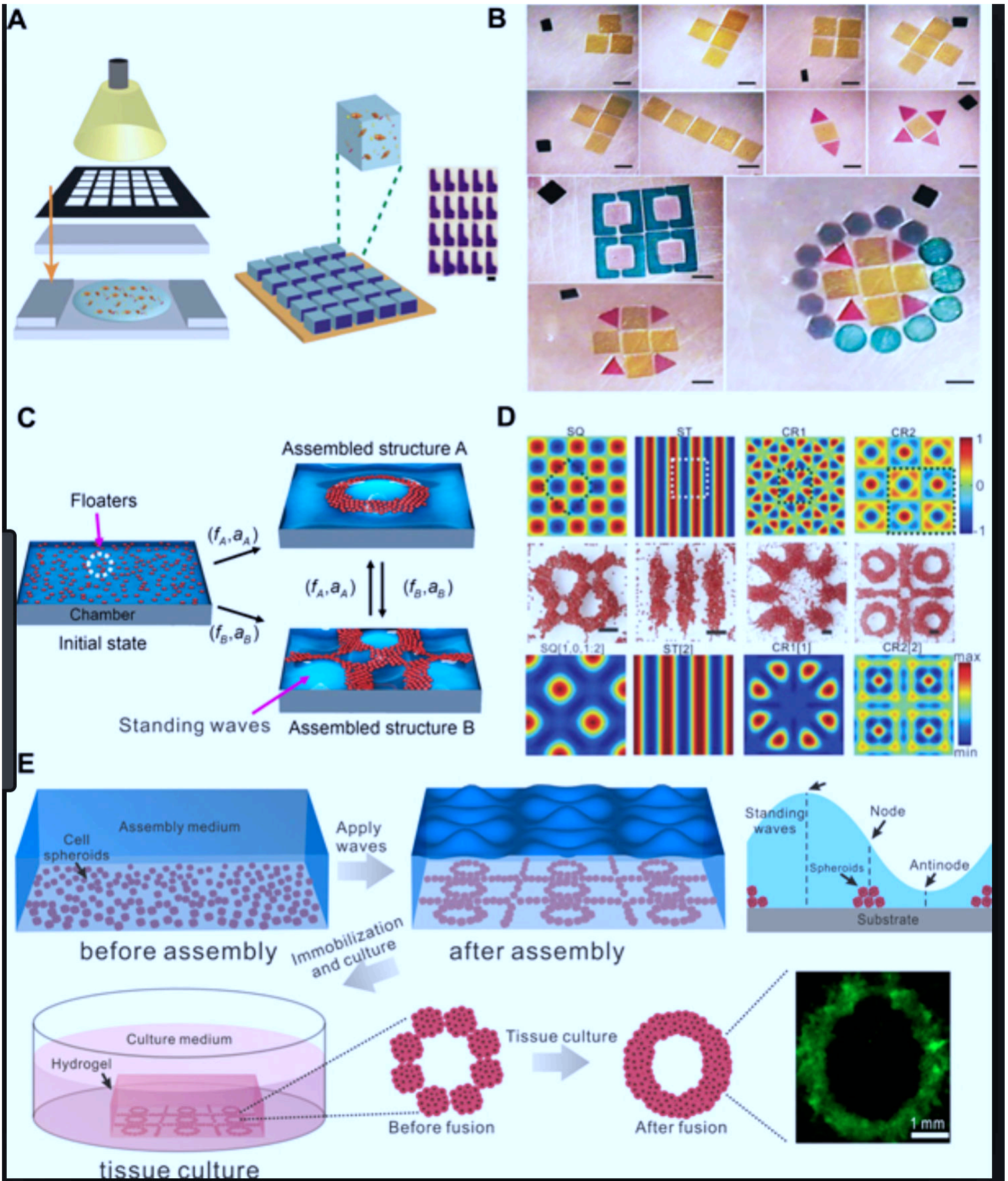
A4 size PVA substrate



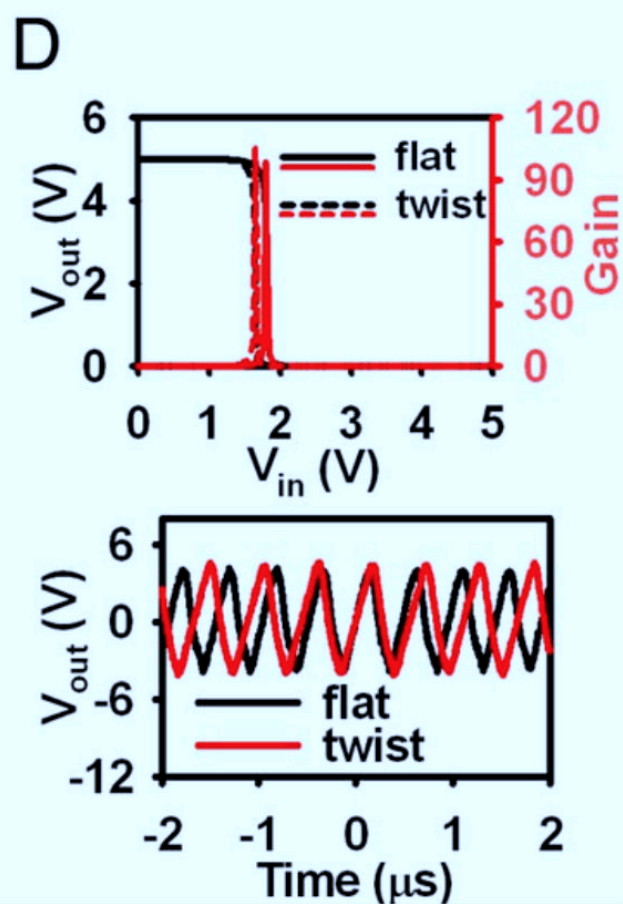
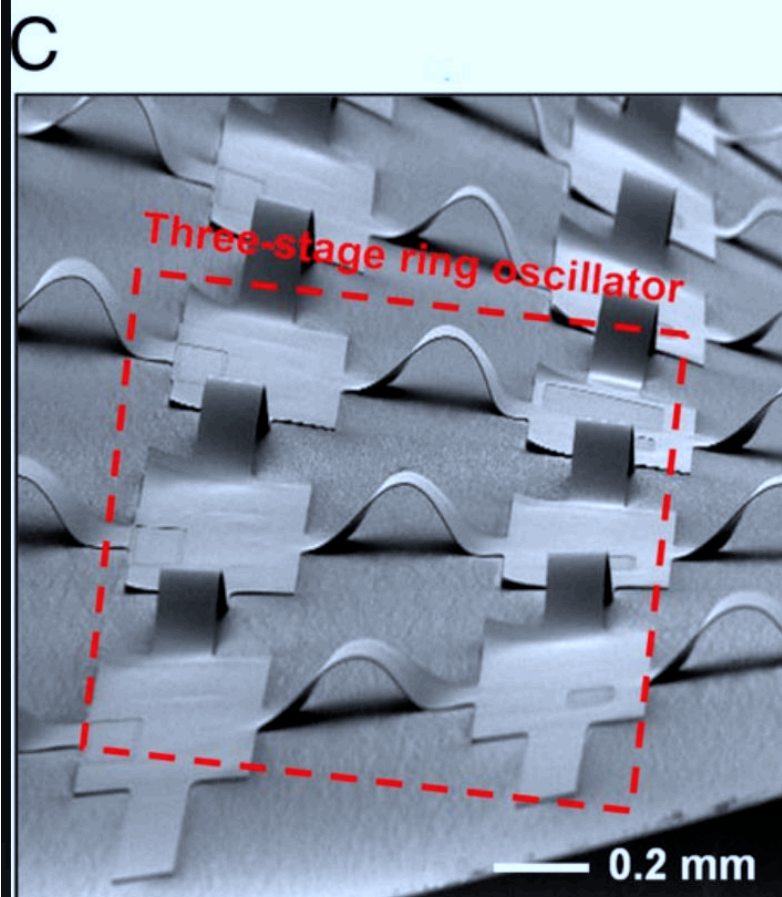
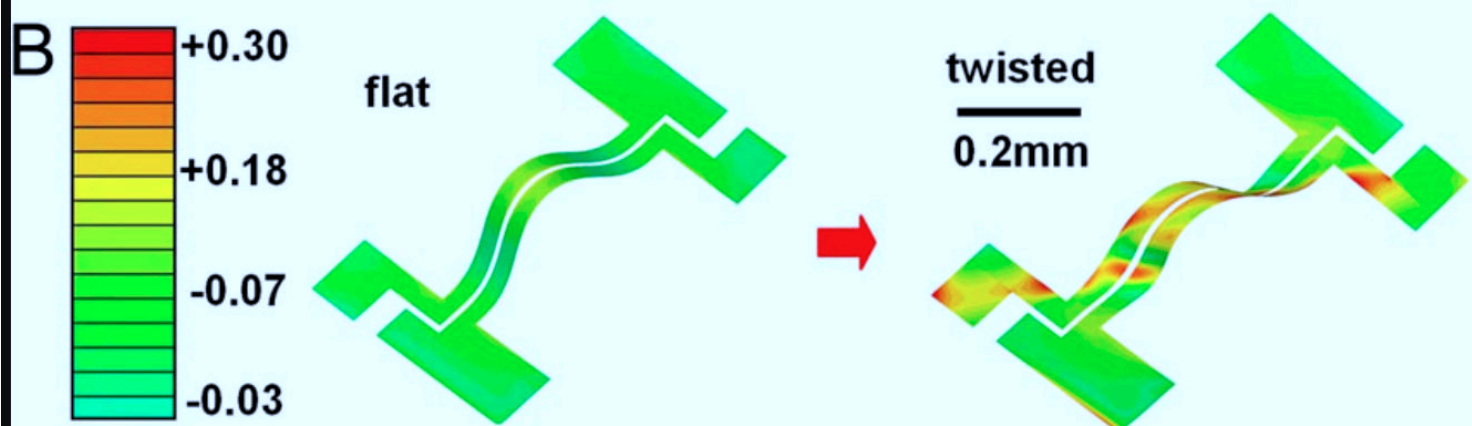
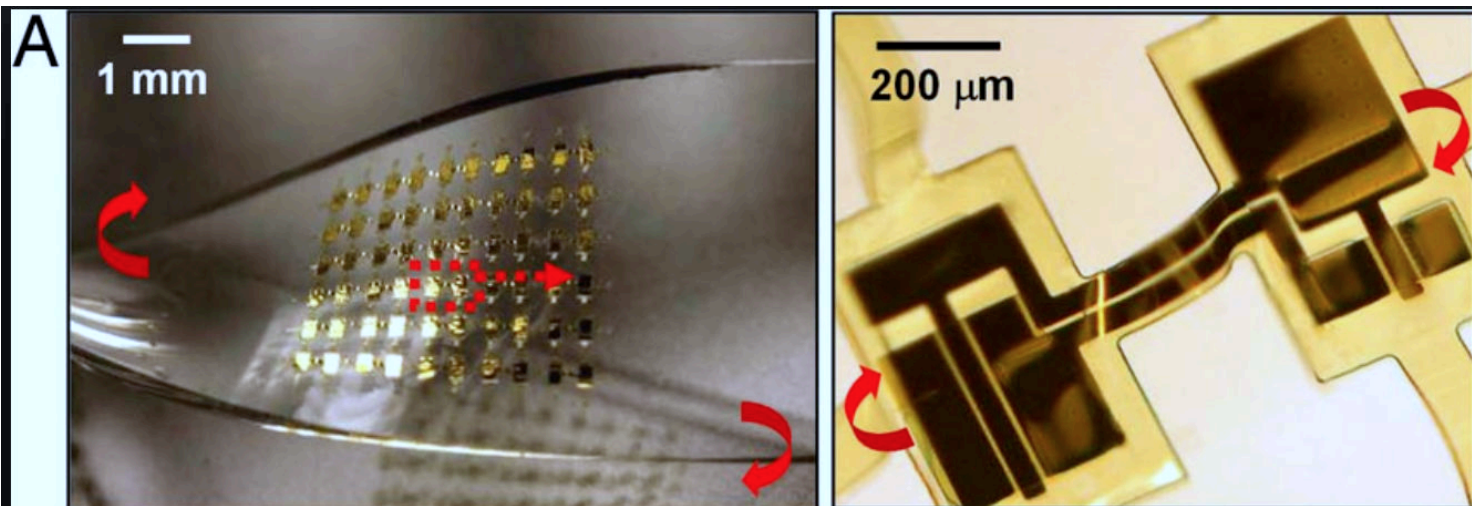
3D printed model car



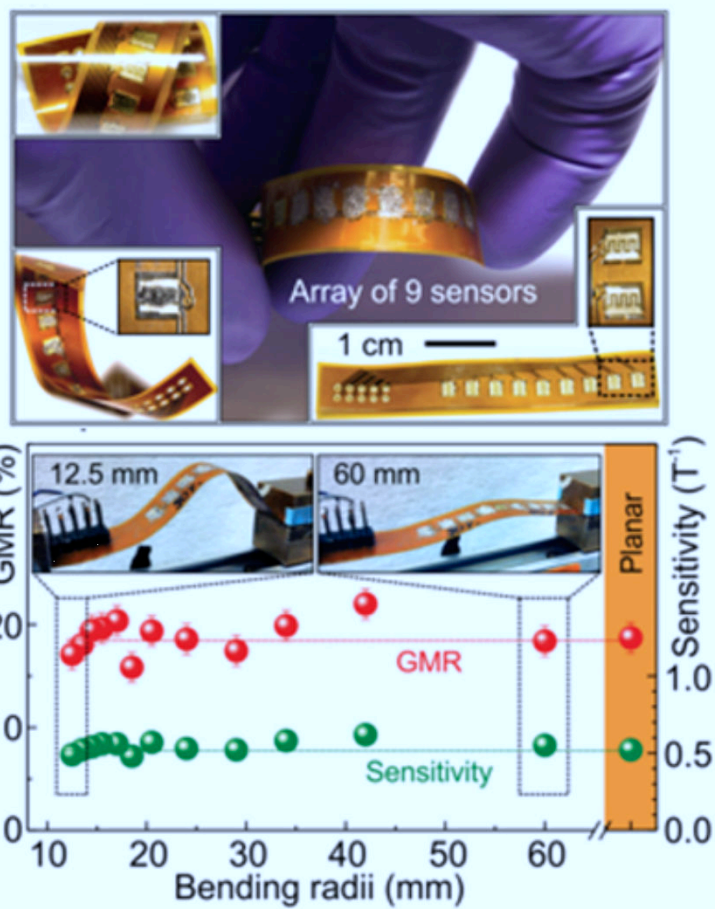




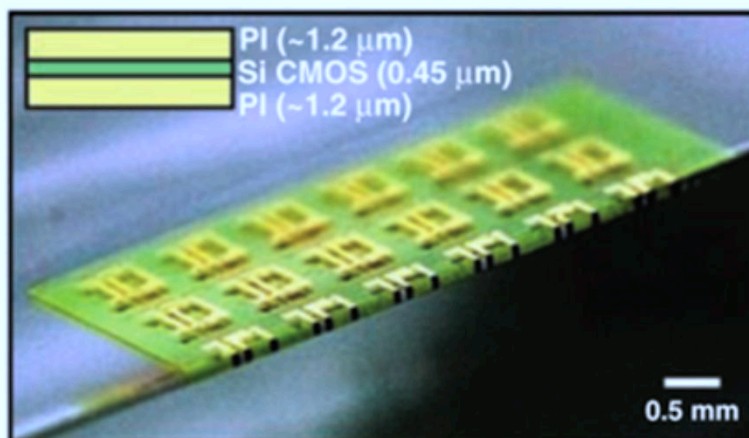
ARTIFICIAL TISSUE MODELING



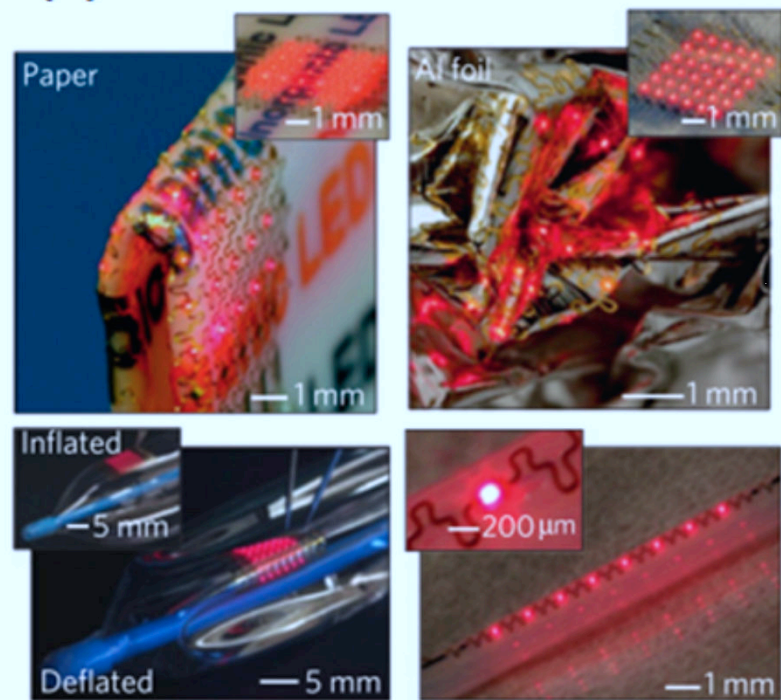
(a)



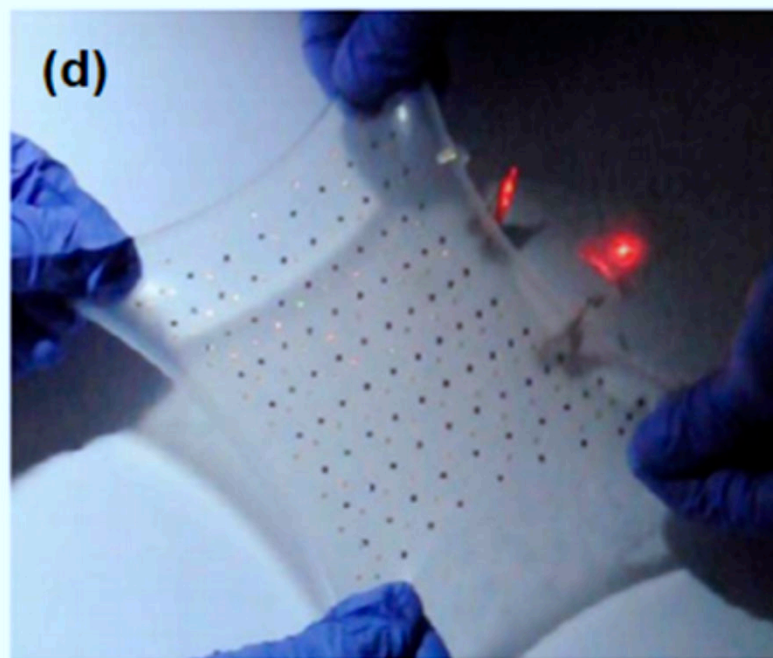
(b)

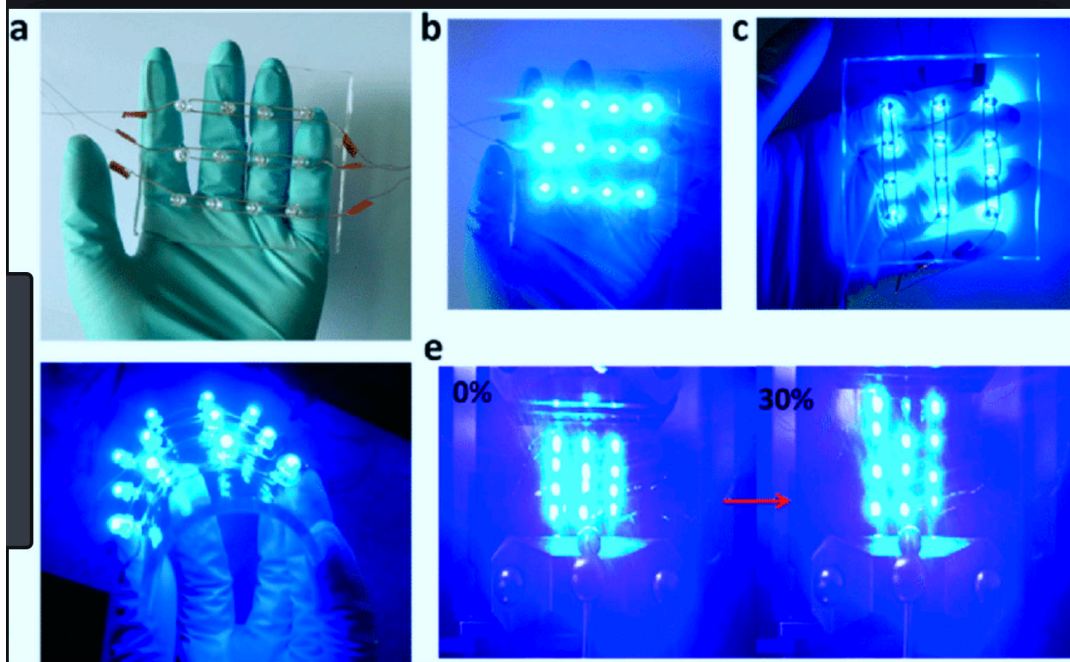


(c)



(d)





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Transparent, bendable, and stretchable LED array
AgNW-PDMS in the electric circuitry. (a) Integrat
transparent and stretchable ...

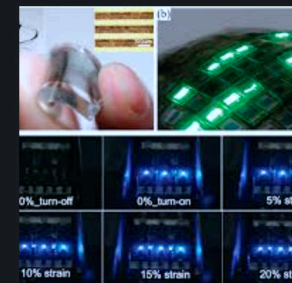
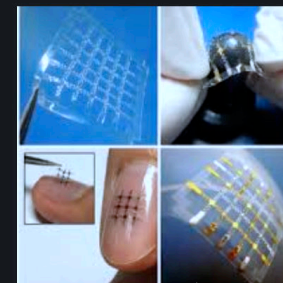
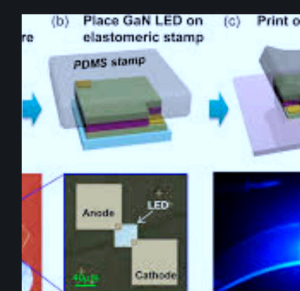
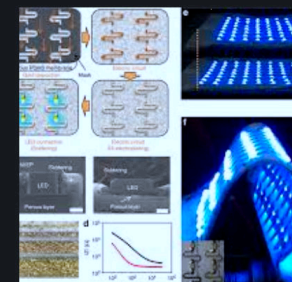
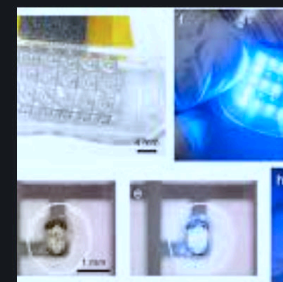
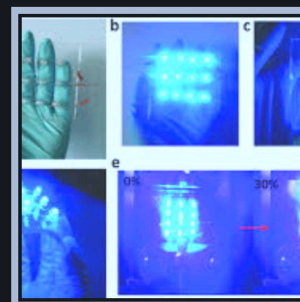
Visit

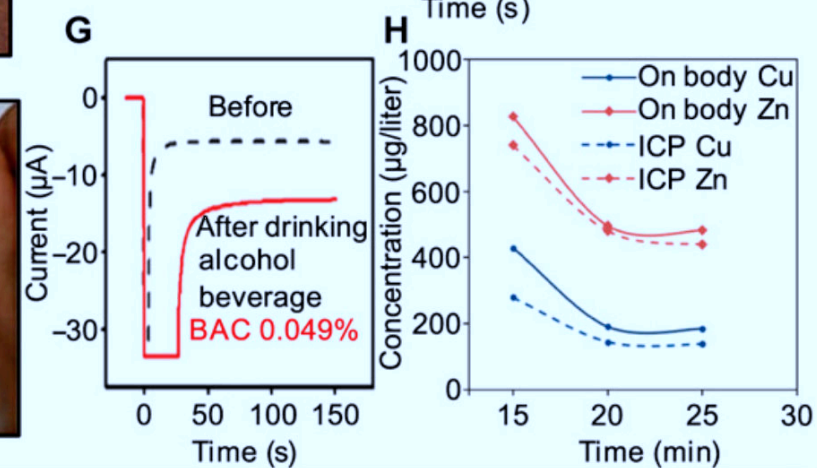
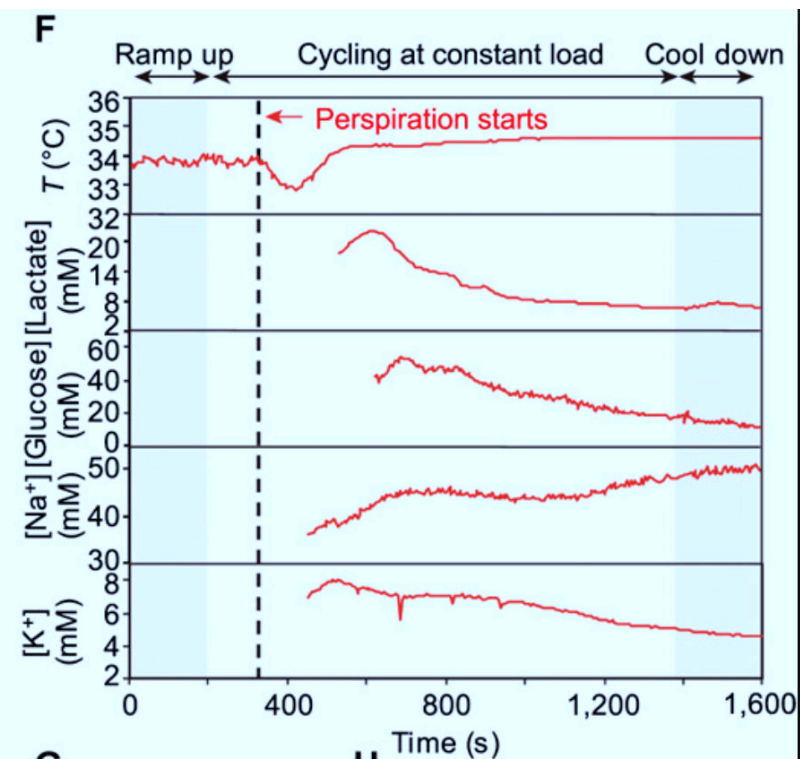
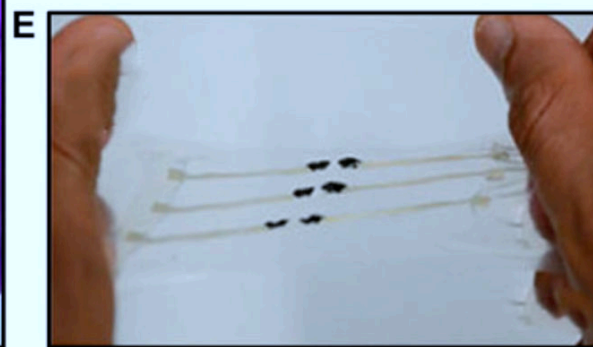
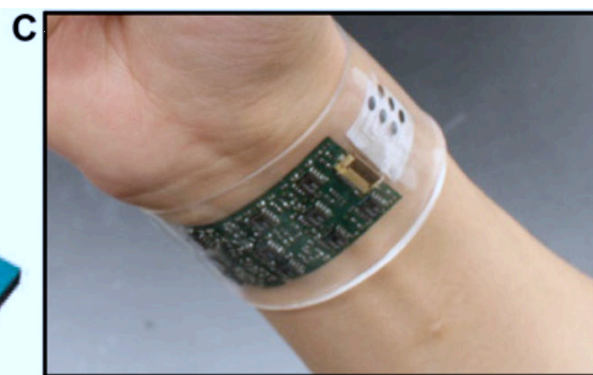
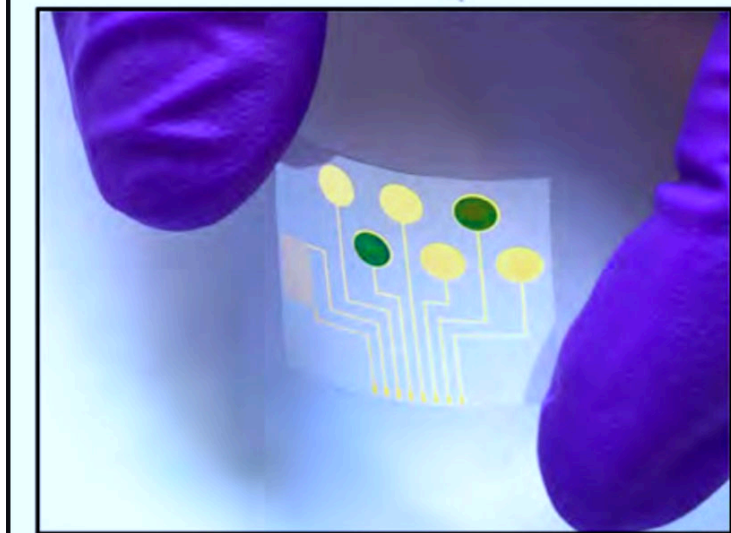
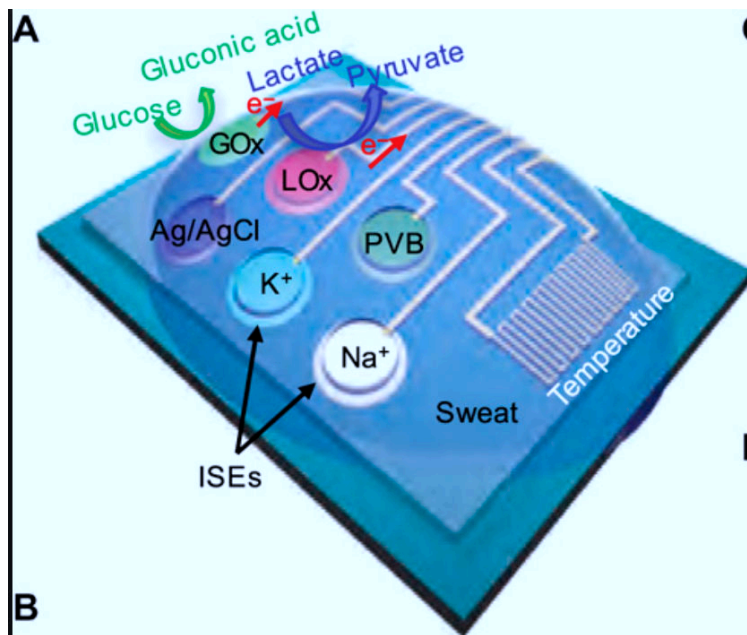
Add to

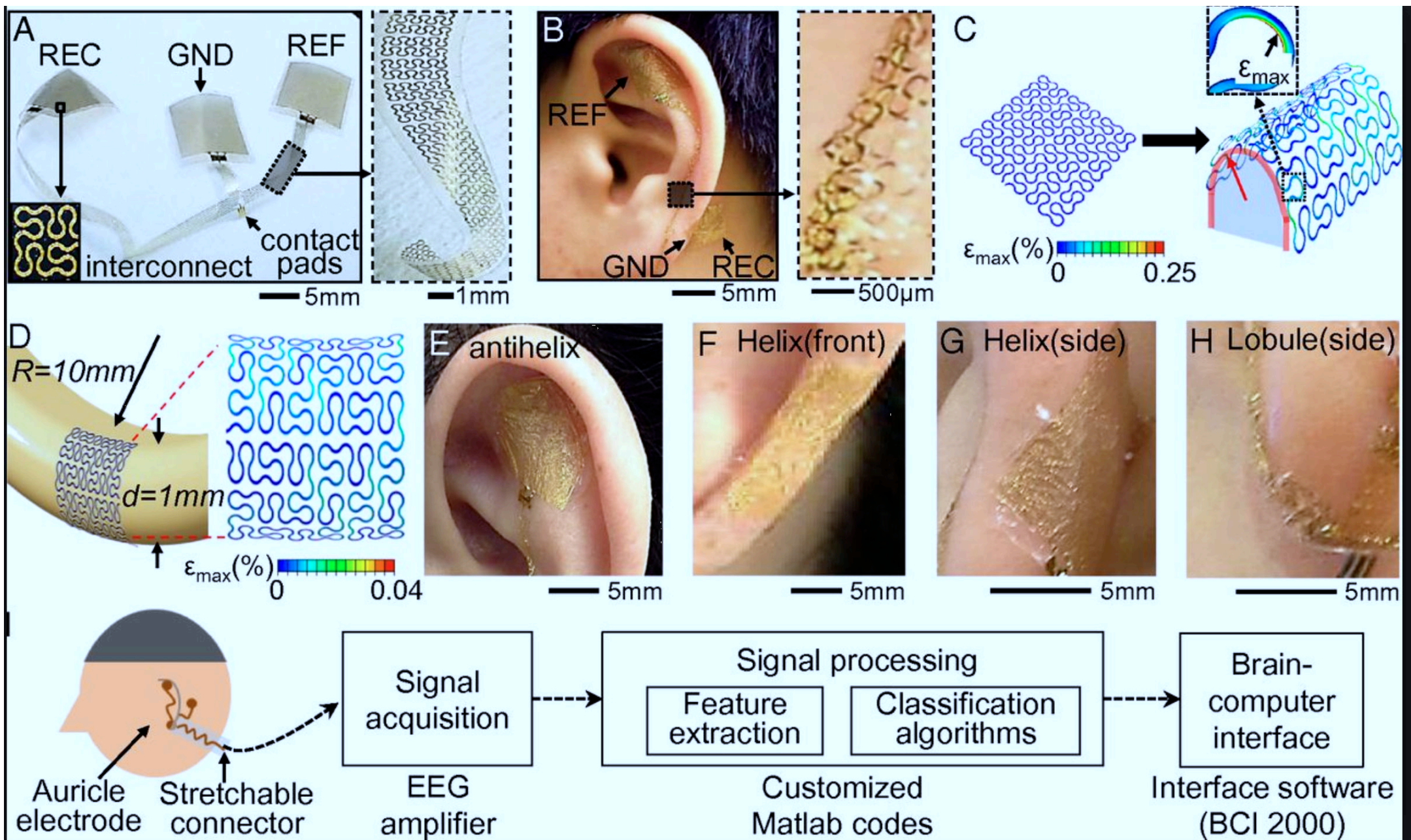
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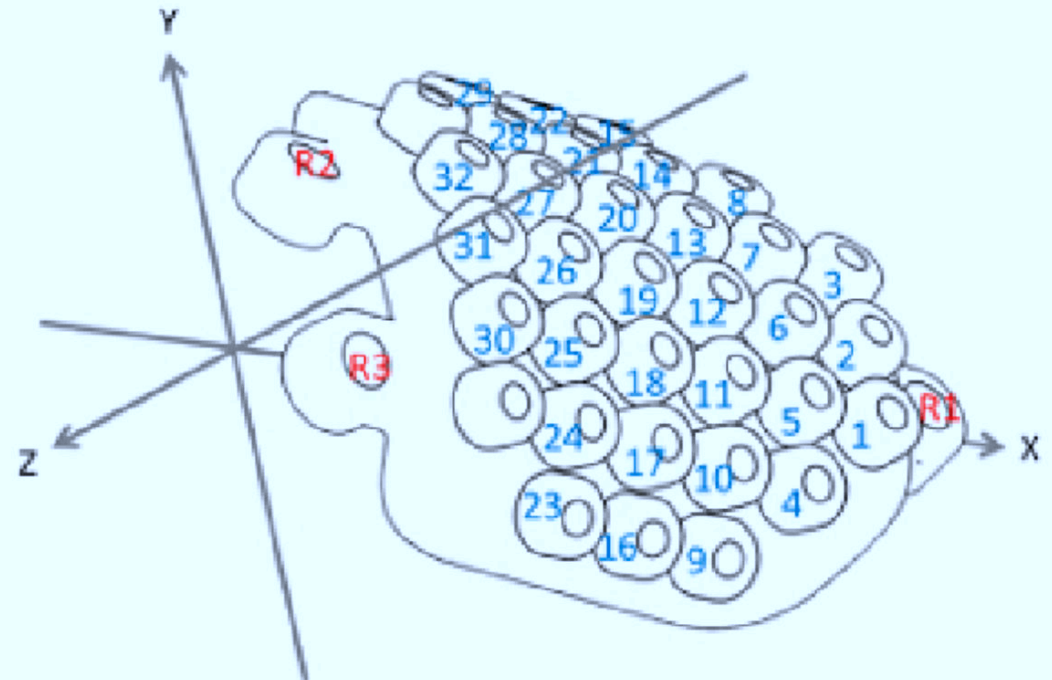




- [Please click here to view a larger version of this figure.](#)
5. Using the rat head picture acquired in 1.3.5. co-register the positions of the 3 landmarks (R1, R2, and R3) in the MR points of the landmarks as references to generate the electrode positions as the electrodes are fixed on the scaffold

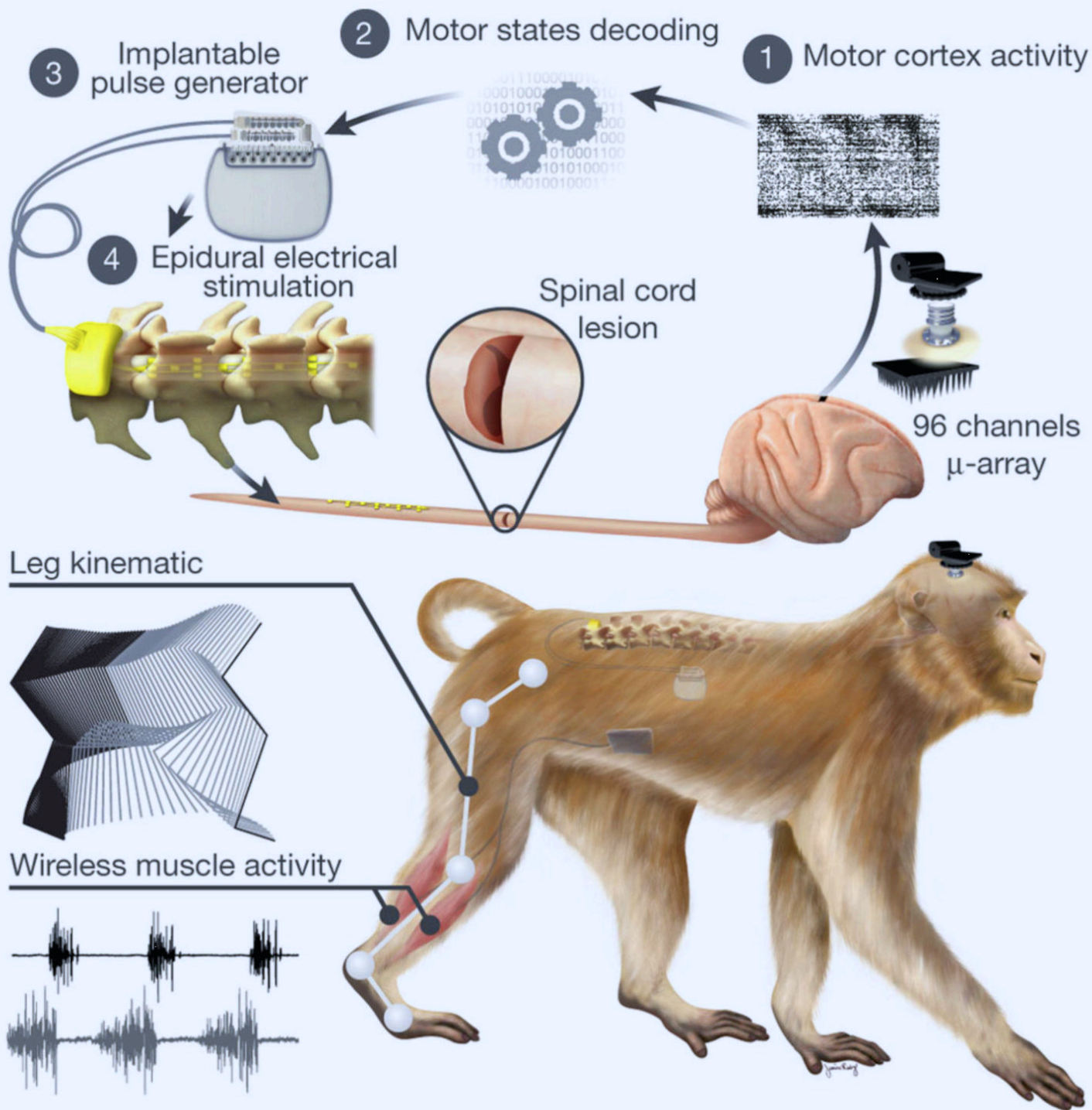


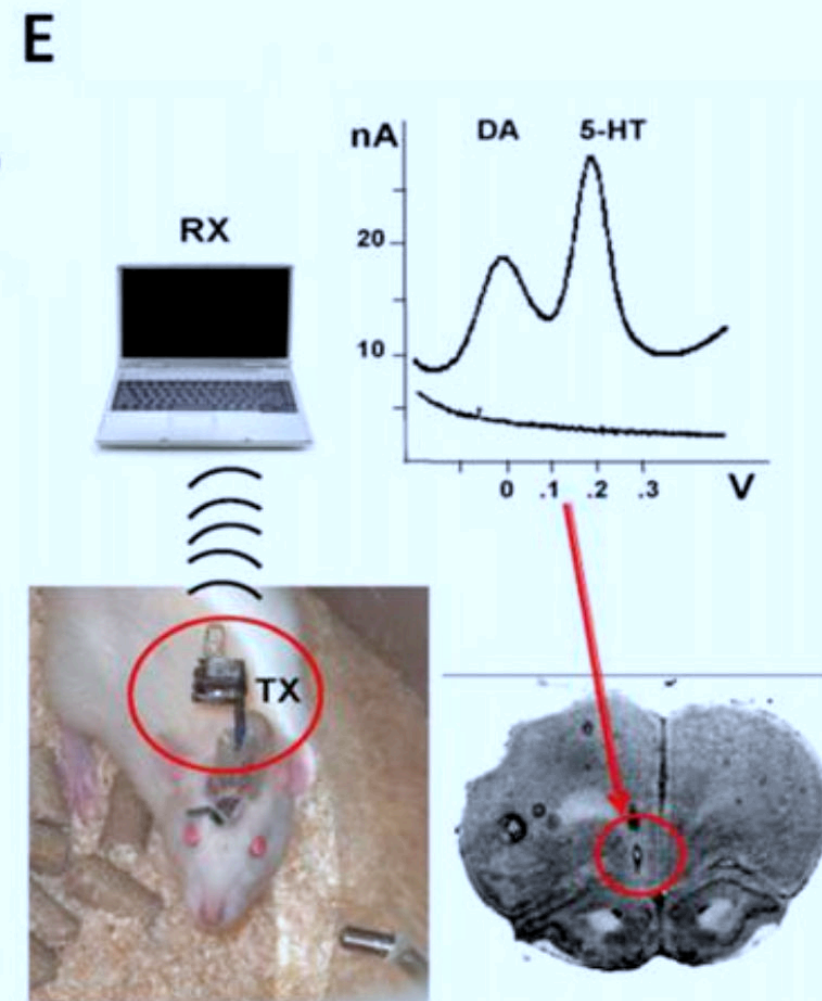
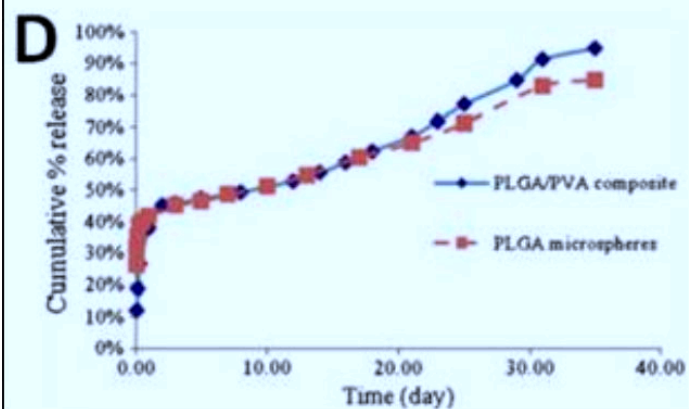
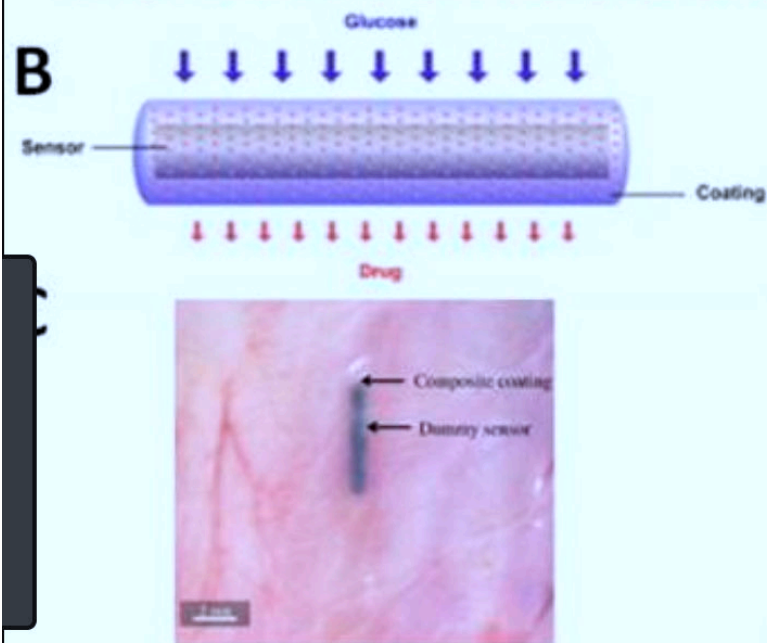
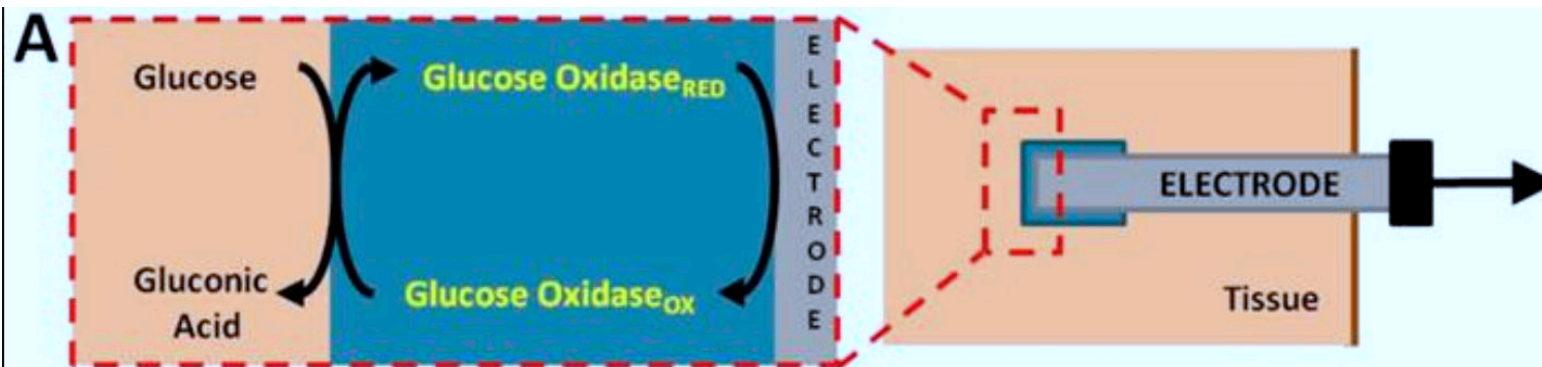
(a)

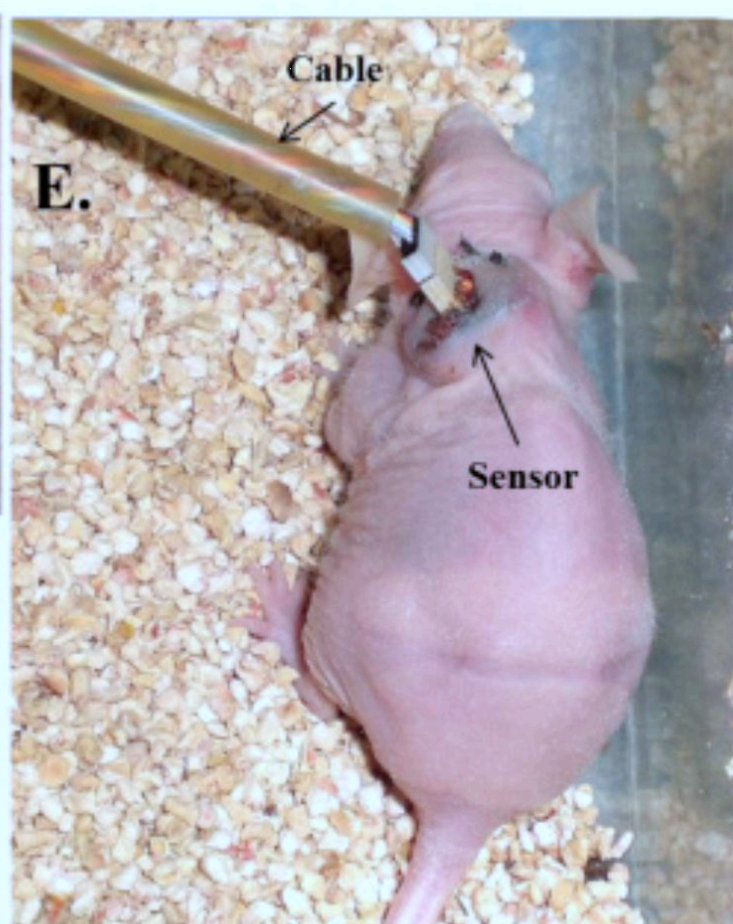
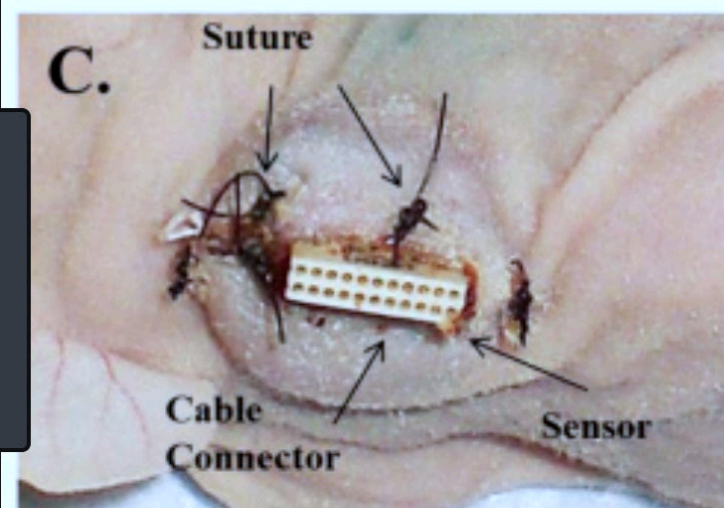
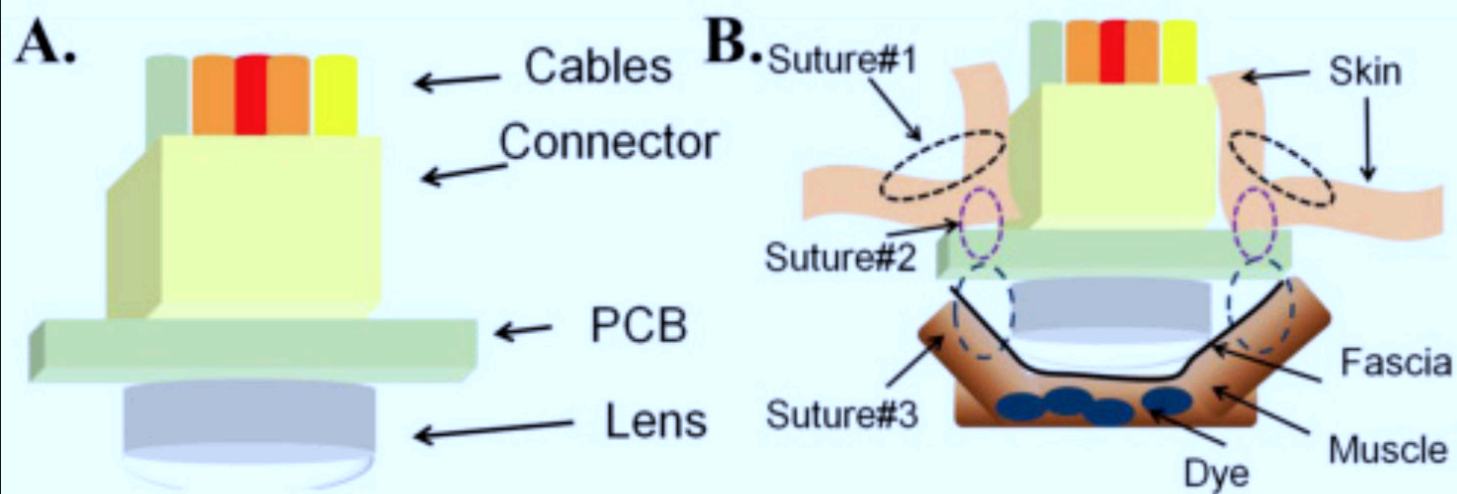


(b)

Figure 3. (A) Rat head picture used to obtain electrode positions and (b) the EEG mini-cap diagram with the coordin

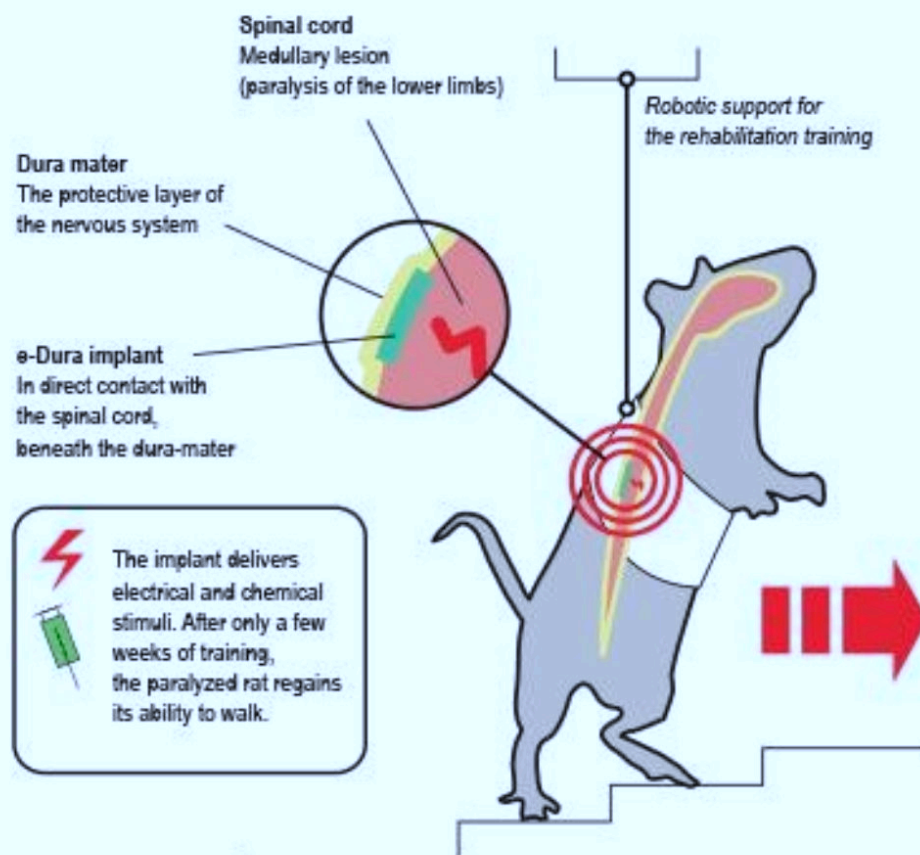






The spinal cord implant that mimics living nervous tissue

The EPFL e-Dura implant has been successfully tested on paralyzed rats, allowing them to walk again. The flexible and stretchable device can be applied directly to the spinal cord without causing friction and damage, paving the way for future human trials.



Two months post-implantation on lab rats

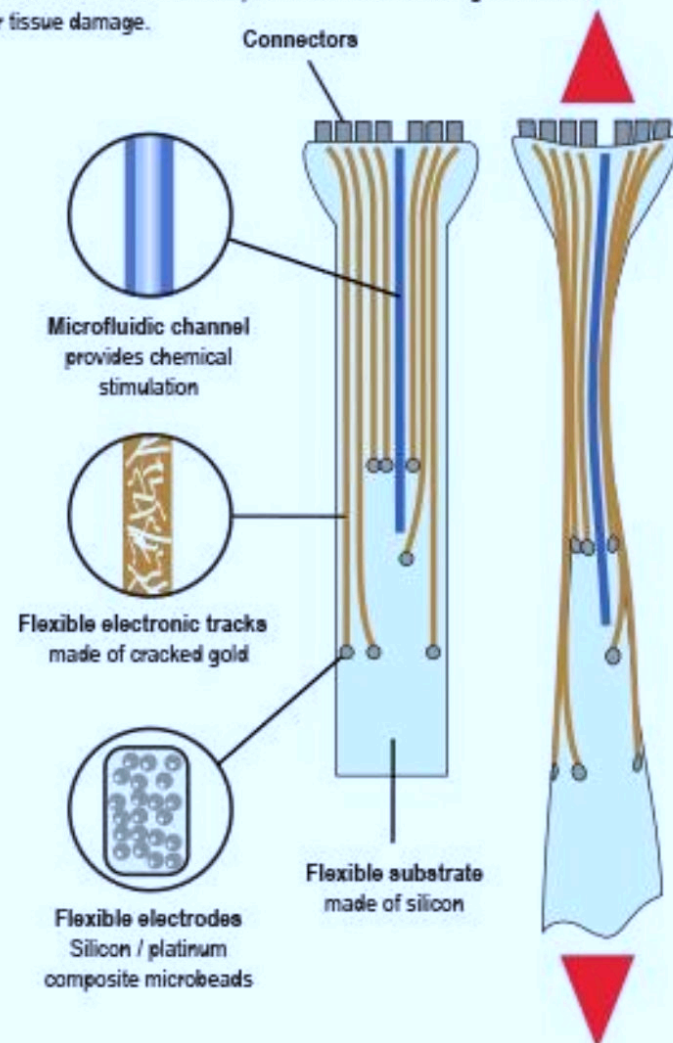
e-Dura implant:
The spinal cord presents no visible damage.

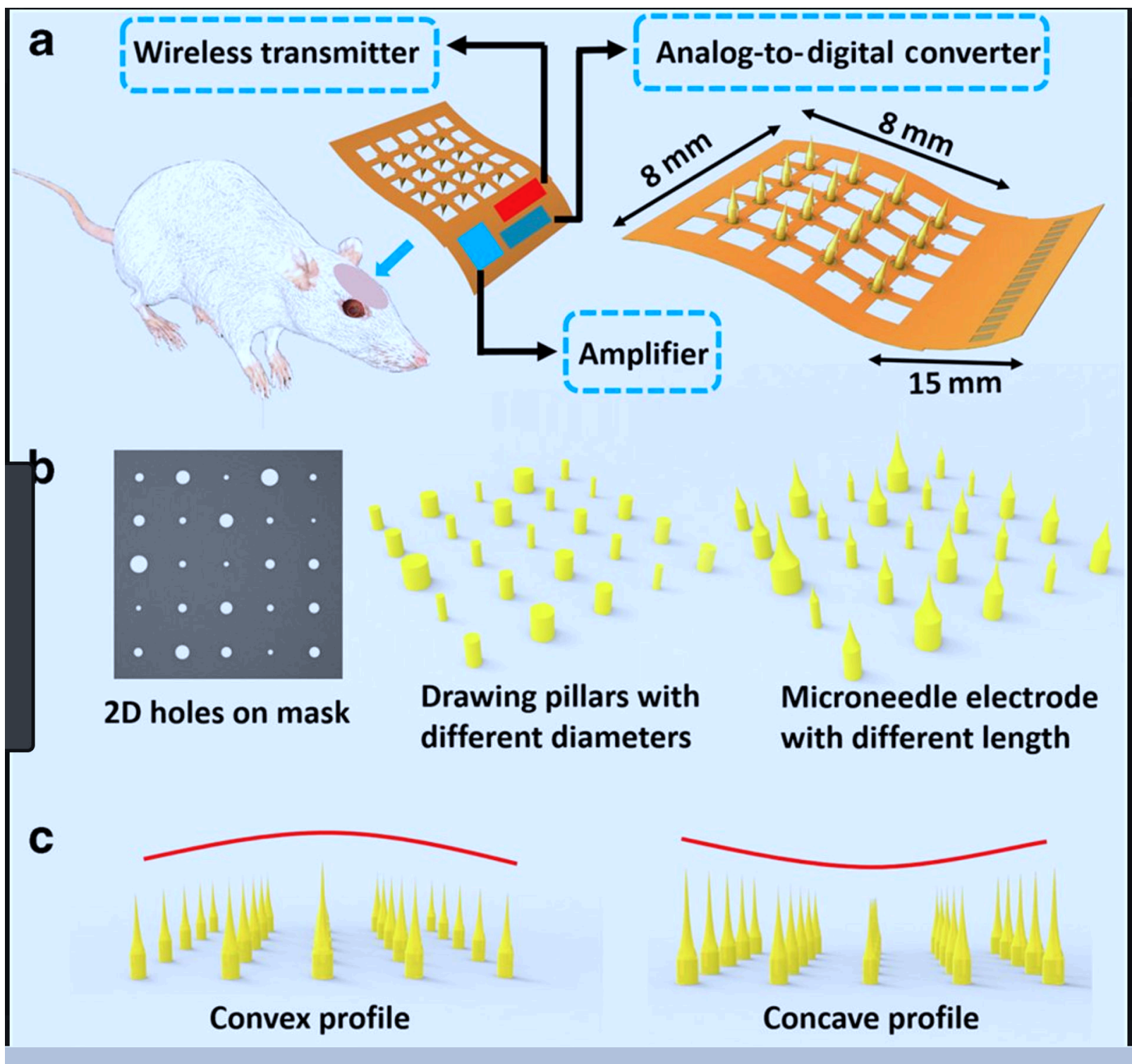


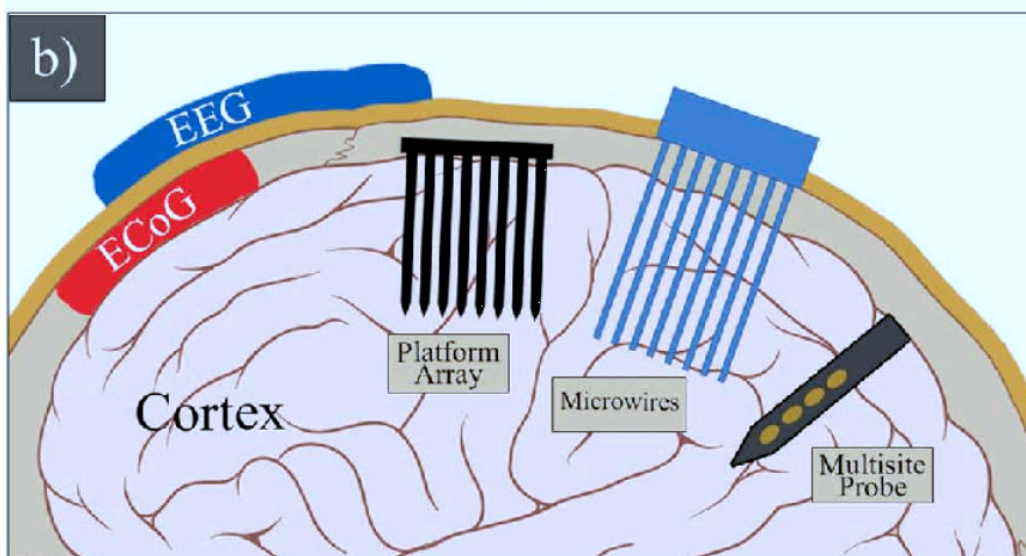
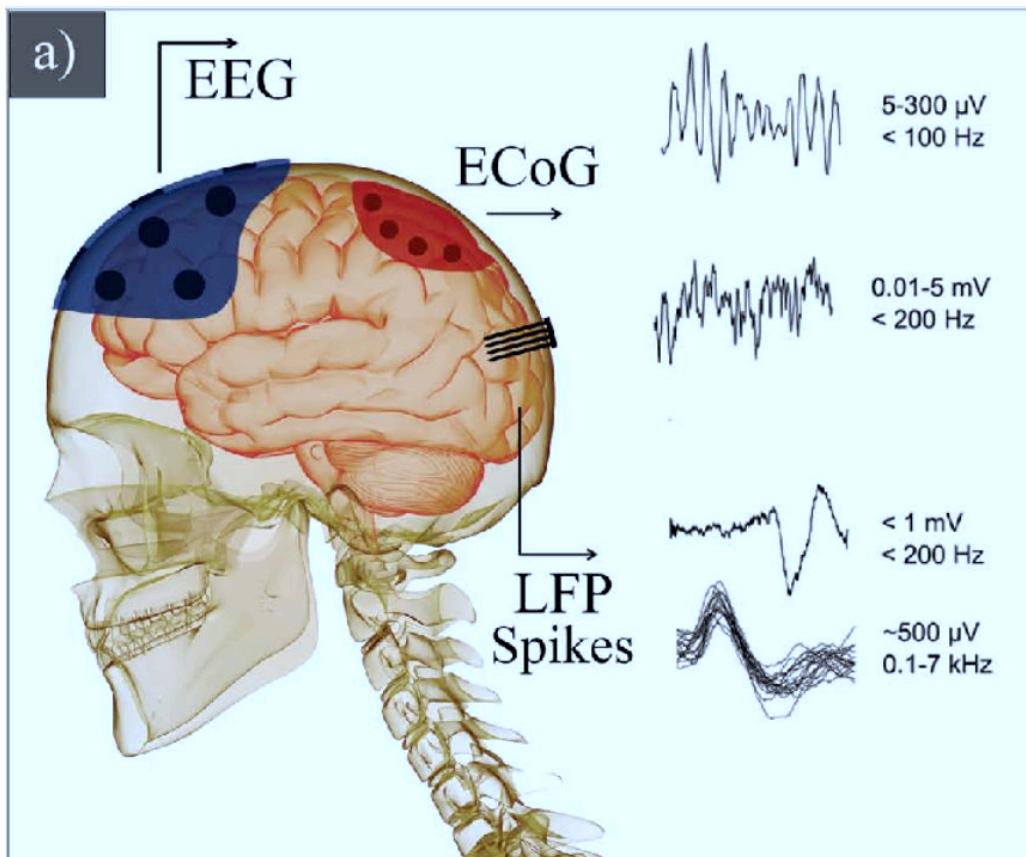
Conventional implants:
The spinal cord is severely damaged and its function is impaired.



A feat of engineering: flexible, stretchable, and full of technology
It took the researchers years to develop the e-Dura implant. Designed to be as stretchable as living tissue, it is implanted right onto the spinal cord, and can remain in contact with spinal cord without causing inflammation or tissue damage.







c)

NI Signals and Sensors

	Sensor Location	Signal Name	Signal Type (Band)	Signal Information State/Signs
Non-invasive	Scalp	EEG	ERP Slow Rhythms	P300 BP
	Epicortical	ECoG	Medium Rhythms	μ (Alpha) Beta
Invasive	Intra-parenchymal	LFP	Fast Rhythms	Gamma
		Action Potentials (spikes)	Single Neuron MUA Populations	

Field Potentials

Signals



485 × 217 - Images may be subject to copyright. [Learn More](#)

EMOTIV EPOC+ EEG helmet


ResearchGate

EMOTIV EPOC+ EEG helmet and electrodes

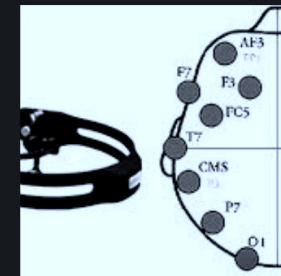
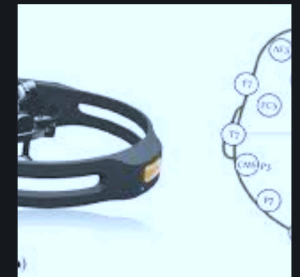
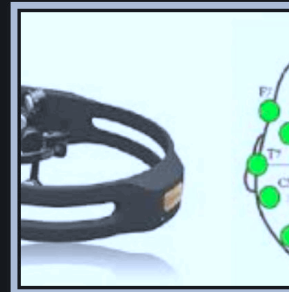
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Related images:





g.Nautilus-fNIRS wireless EEG

Guger Technologies

Nautilus has a built-in lithium ion batteries for the EEG for continuous recordings of up to 10 hours (32 channels)



Visit



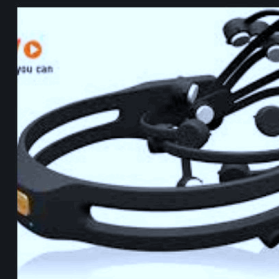
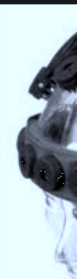
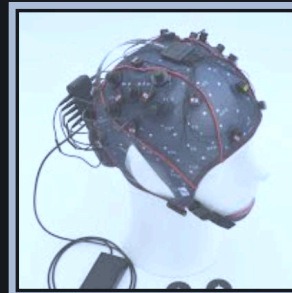
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Related images:



Spiderclaw V1



Spiderclaw V2



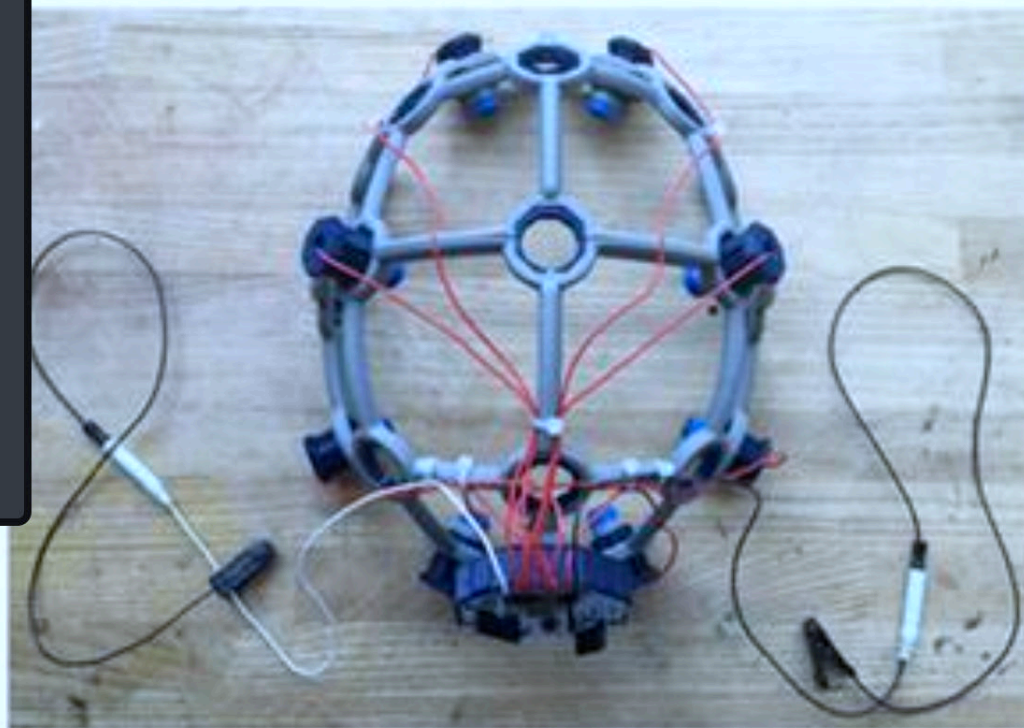
Ultracortex Mark I



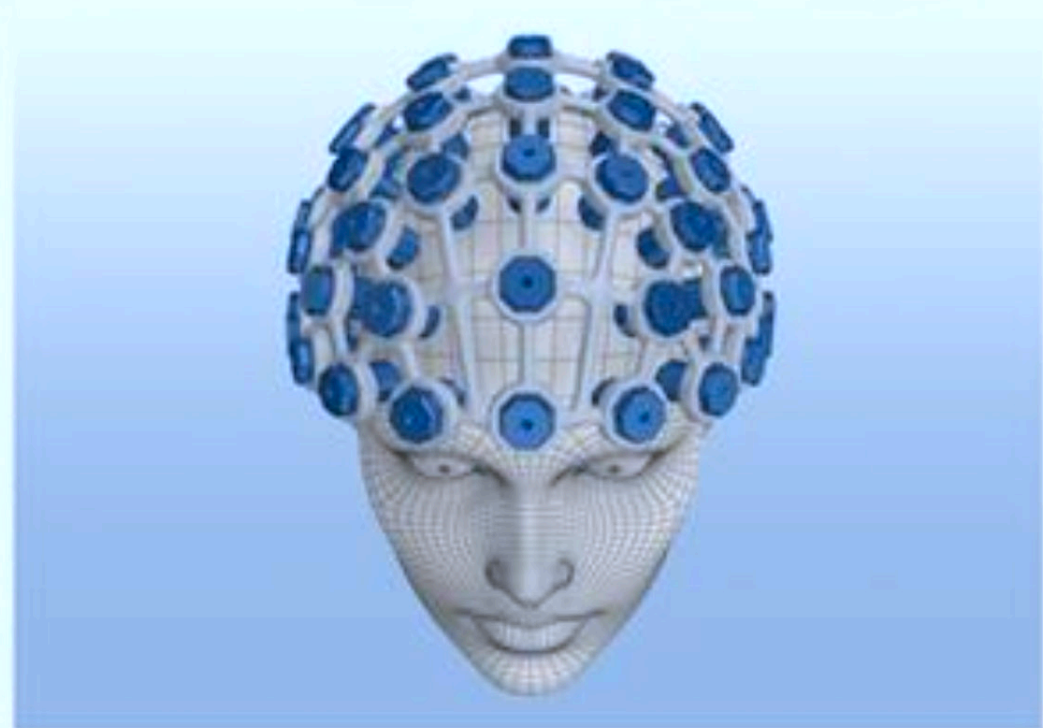
Ultracortex Mark II



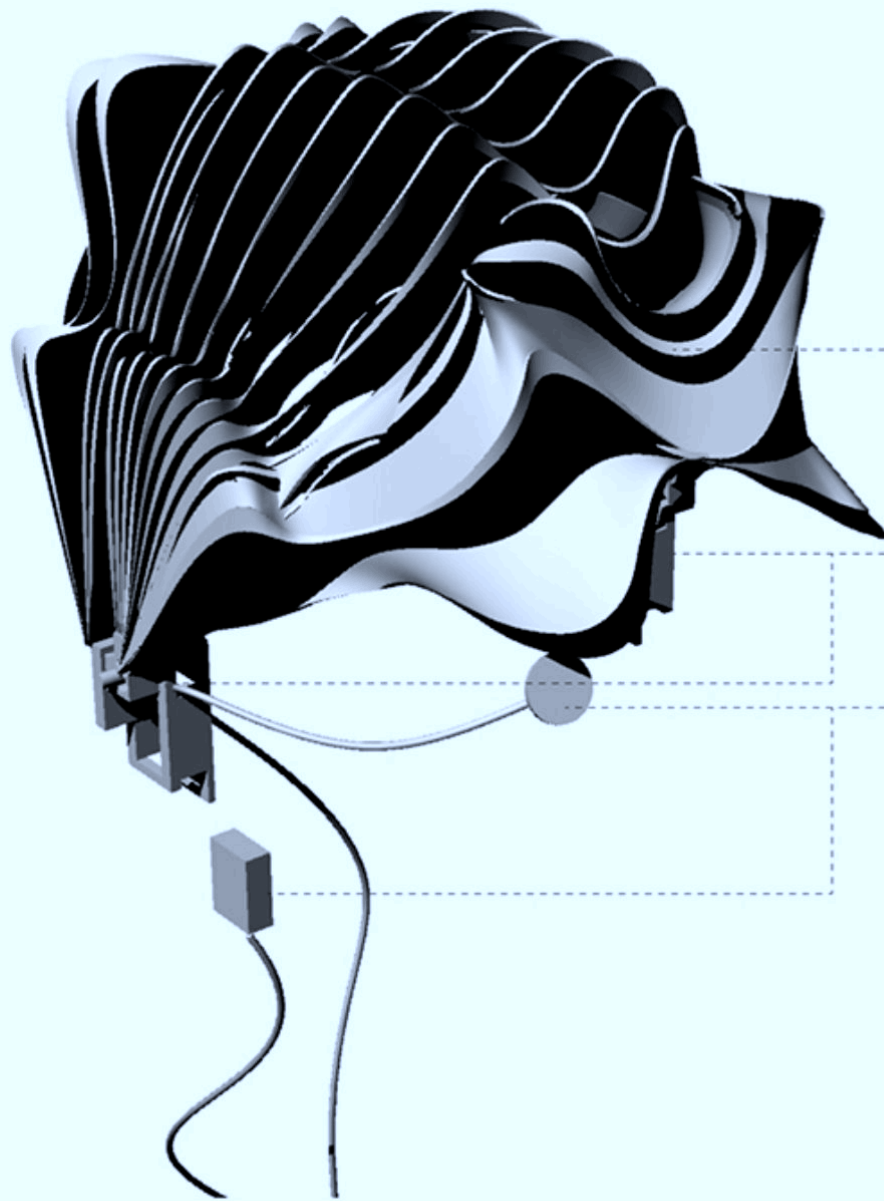
Ultracortex Mark III (current)



Ultracortex Mark IV (concept)







Multi-Material 3dPrinting

White: Solid: Vero white
Black: Flexible: Shore 60

Servos

"Attention" level are translated into actual motions of the helmet.

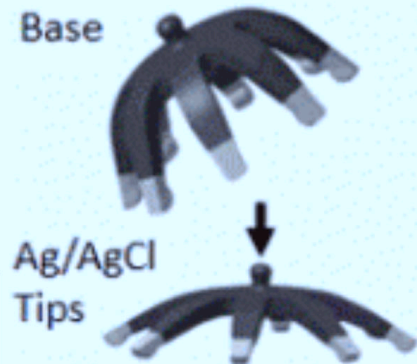
Brain Sensor

Neurosky's EEG chip and Mindflex headset have been redesigned.

SYNAPSE HELMET

Dry EEG electrode

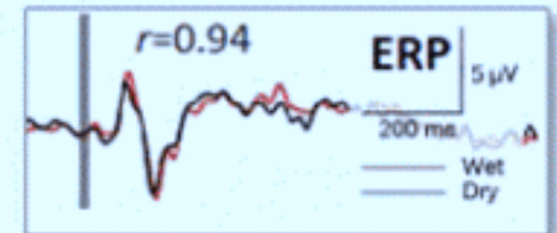
Conductive
Elastomeric
Base



Wearable form-factor



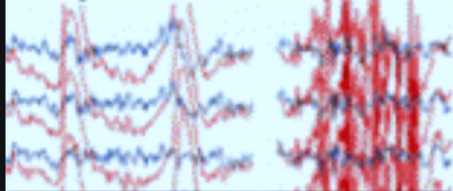
64-channel dry-electrode wireless streaming EEG



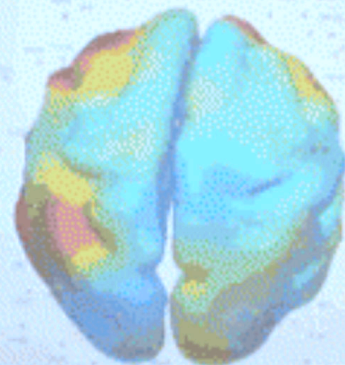
BCILAB / SIFT Online Data Analysis Pipeline

Artifact Removal

Eye Blinks Jaw Clench

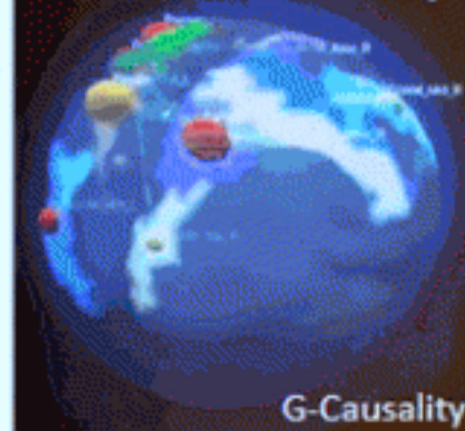


Source Localization



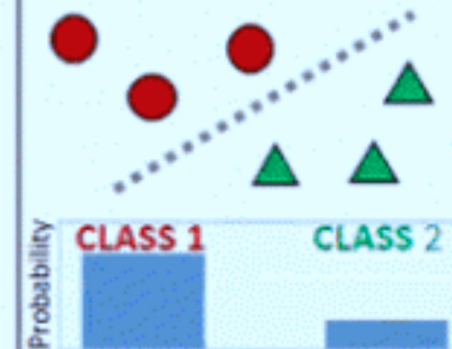
cLORETA

Cortical connectivity



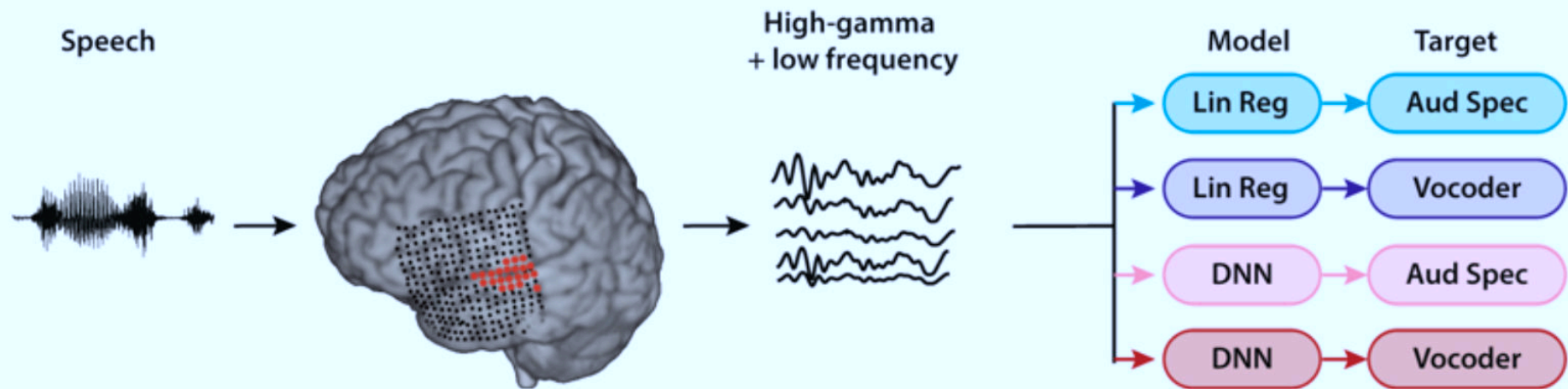
G-Causality

Cognitive State Classification

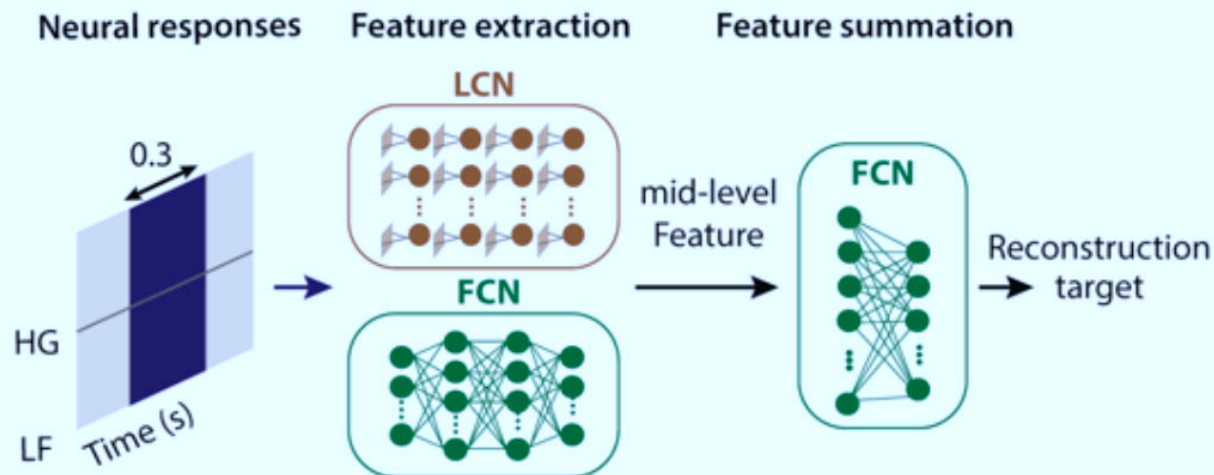


PORTABLE BRAIN MONITOR

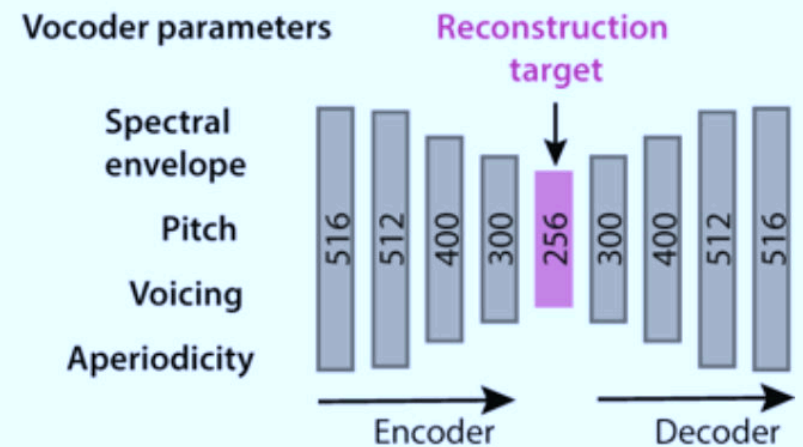
A. Reconstruction models and targets

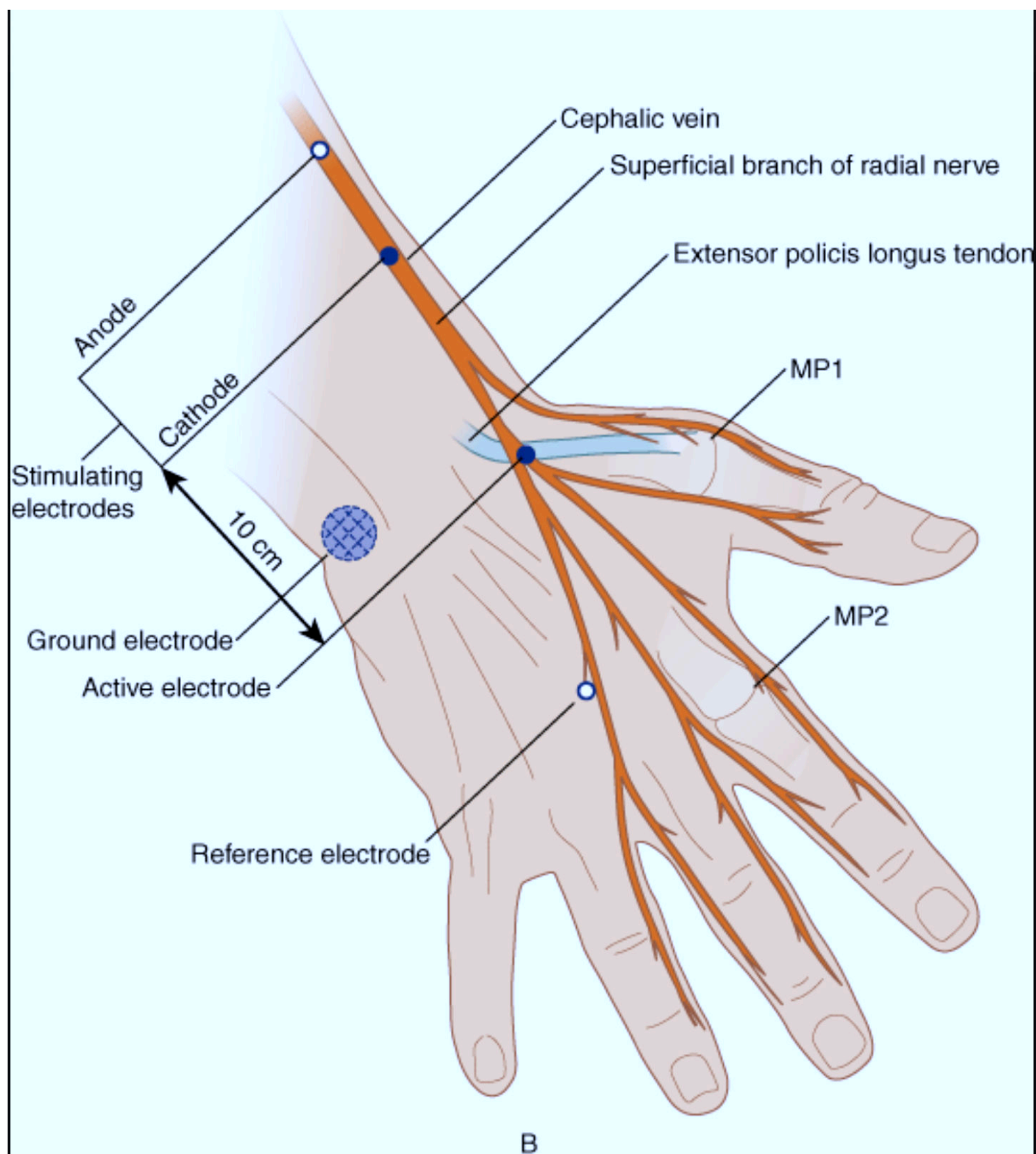


B. DNN architecture



C. Vocoder parameters compression

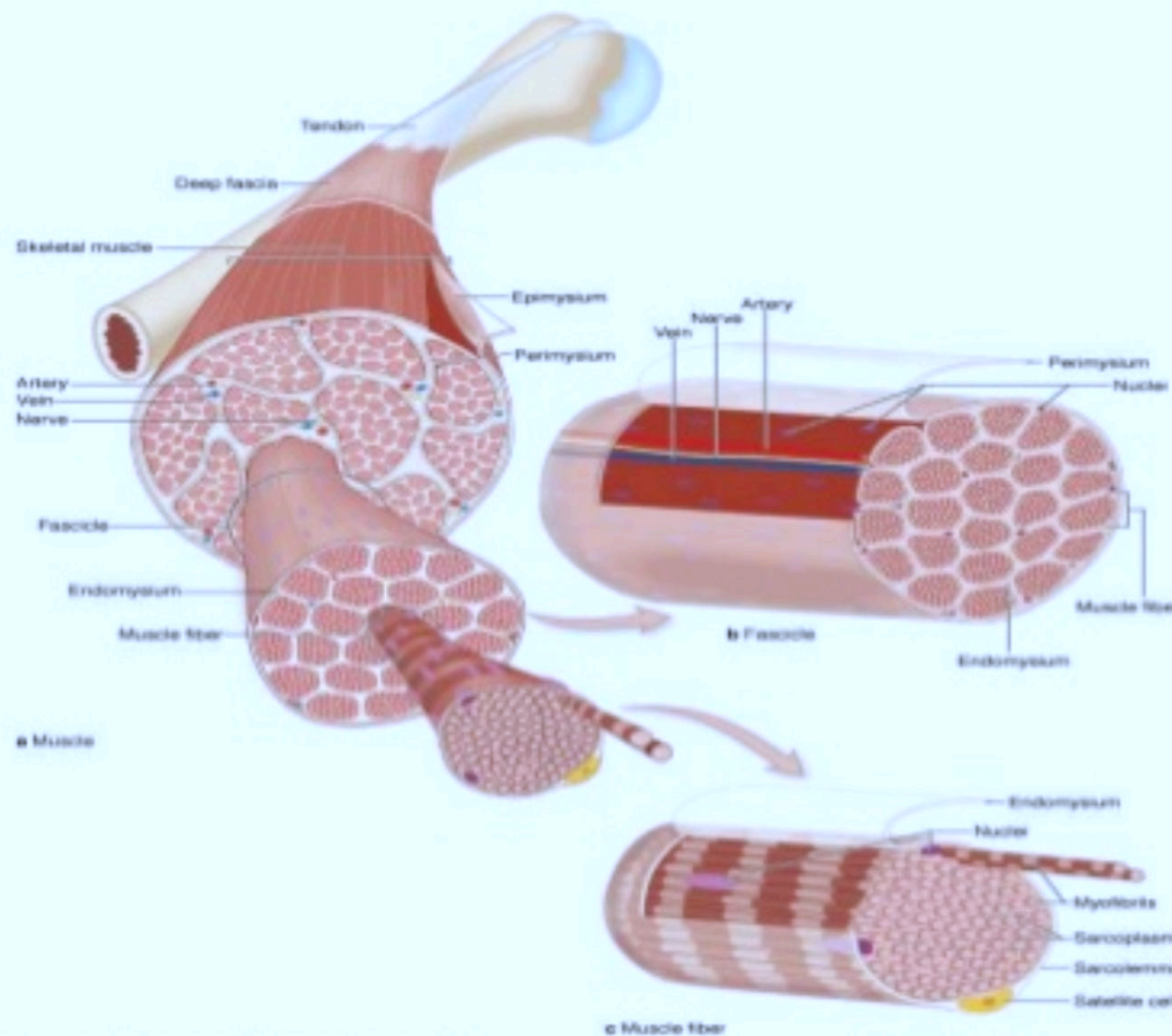




Source: Prentice WE, Quillen WS, Underwood F: *Therapeutic Modalities in Rehabilitation*, 4th Edition: www.accessphysiotherapy.com

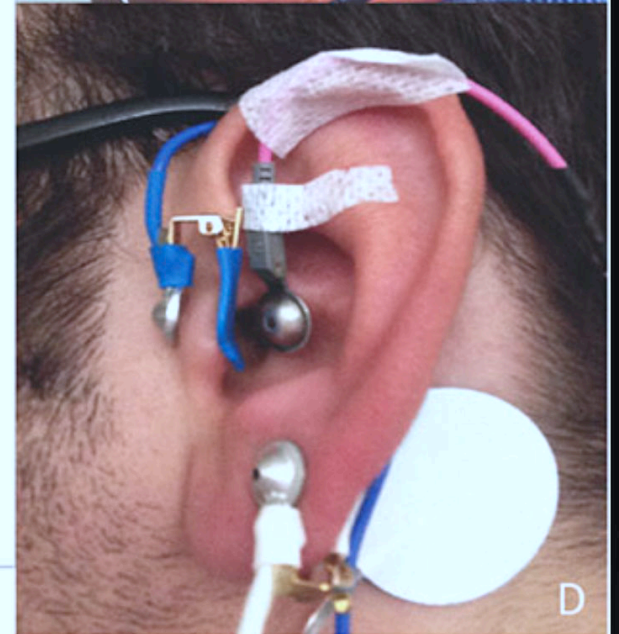
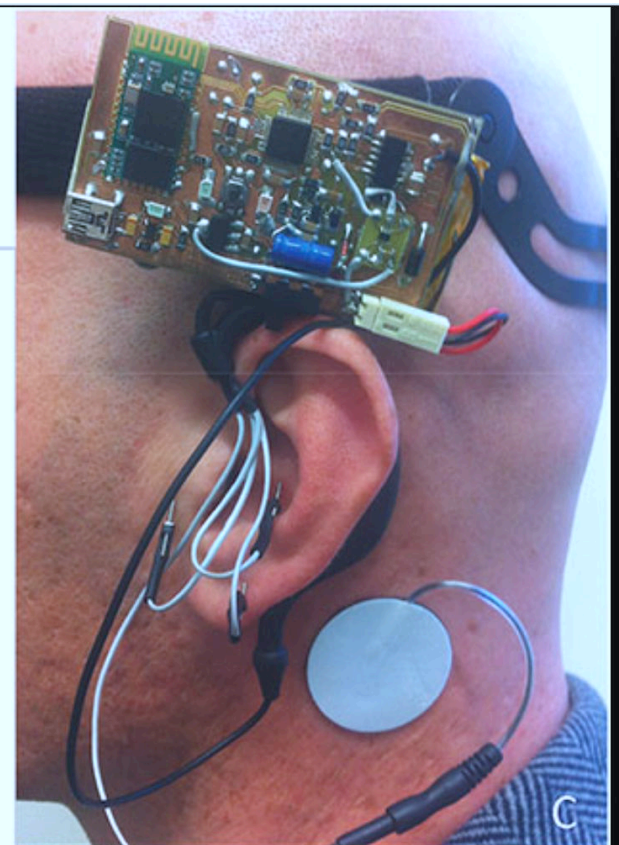
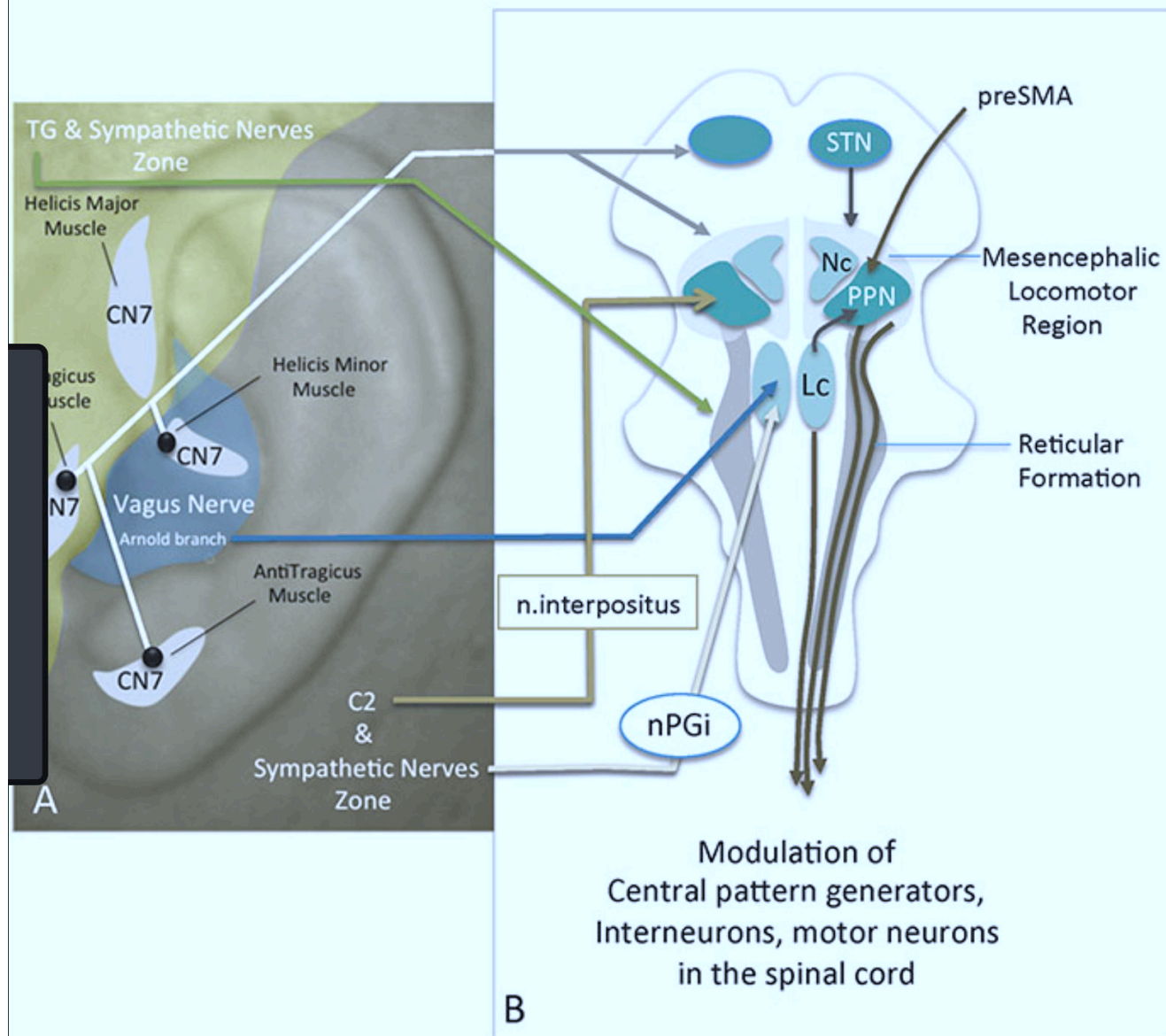
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SKELETAL MUSCLE : STRUCTURE AND ORGANIZATION



- **Epimysium**
(surrounding entire muscle)
- **Perimysium**
(Each fascicle of muscle fibers)
- **Endomysium**
(Individual muscle fibers)

Source: Mescher AG: Junqueira's Basic Histology: Text and Atlas, 20th Edition. <http://www.accessmedicine.com>
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A

External
occipital
protuberance

Greater
occipital
nerve

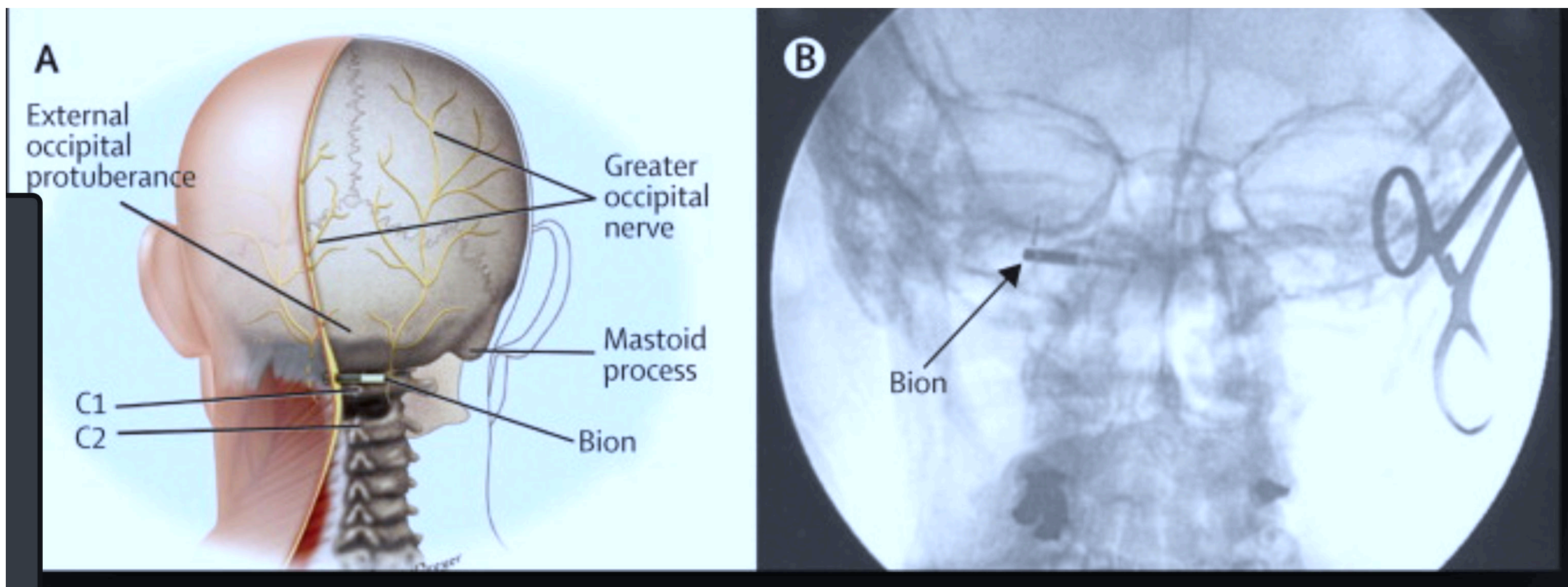
Mastoid
process

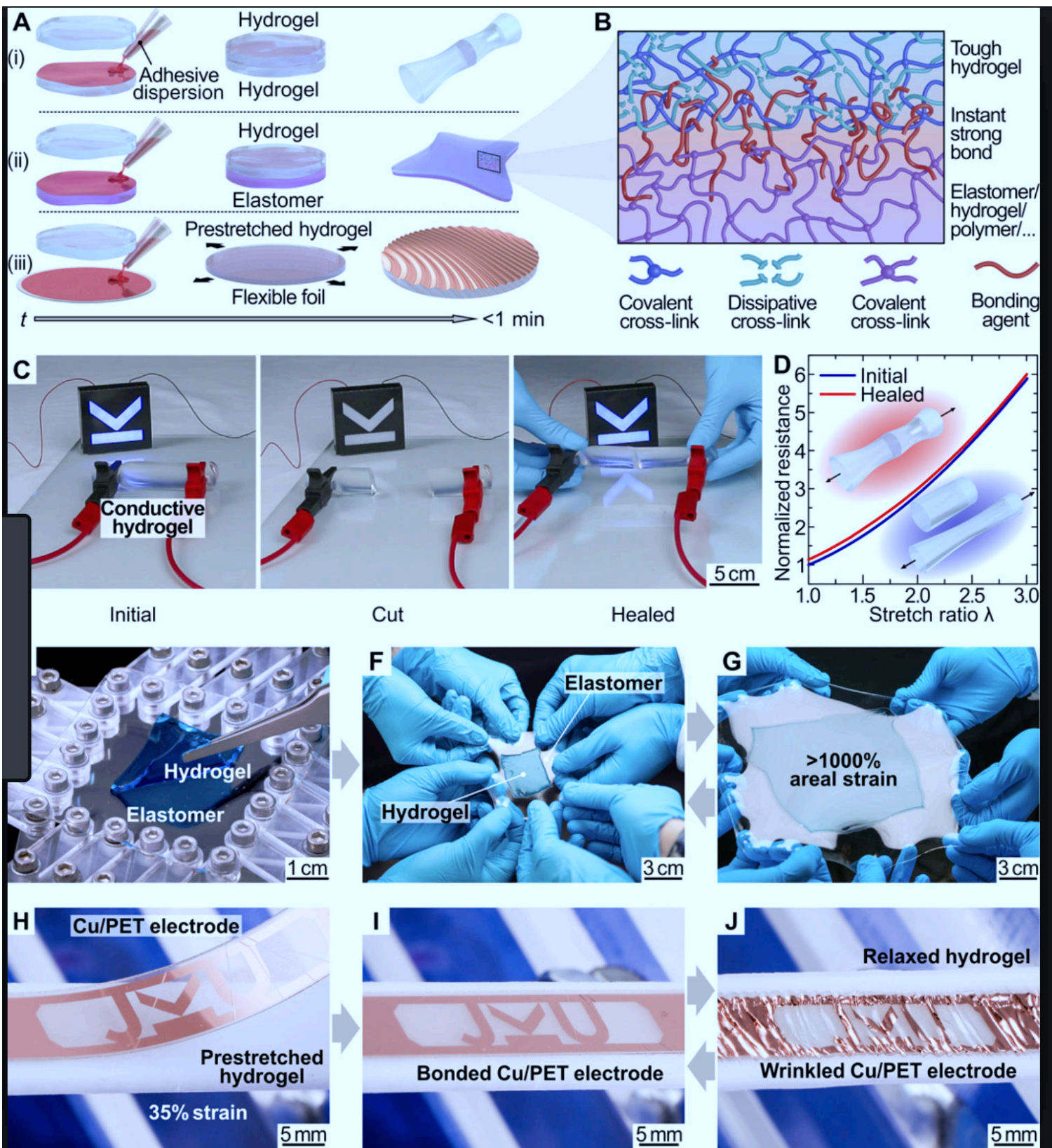
C1
C2

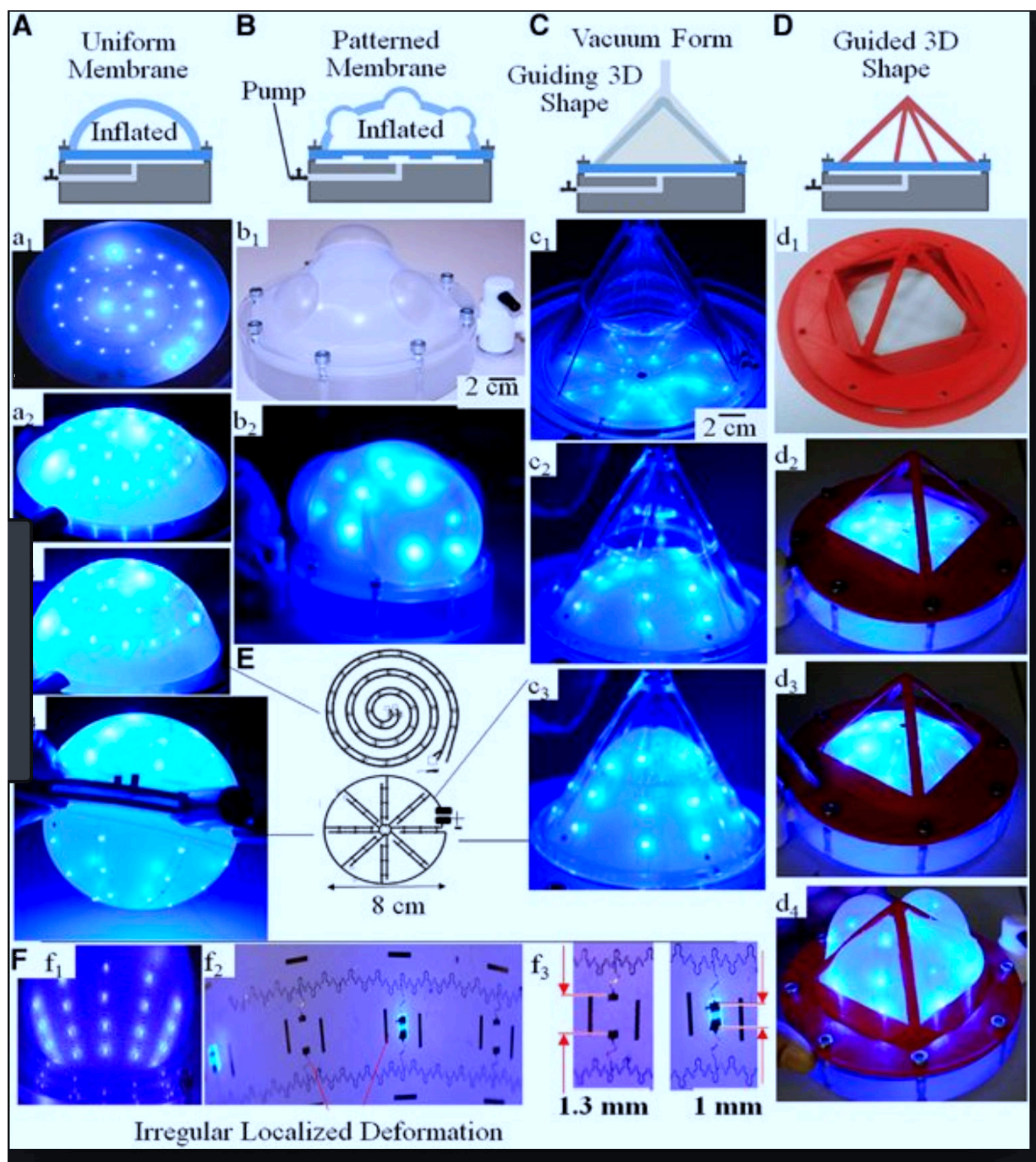
Bion

B

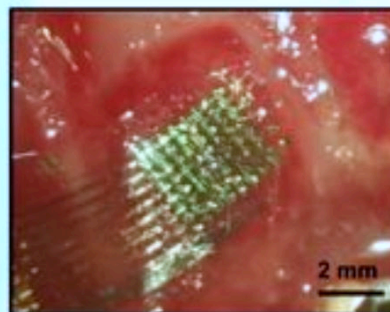
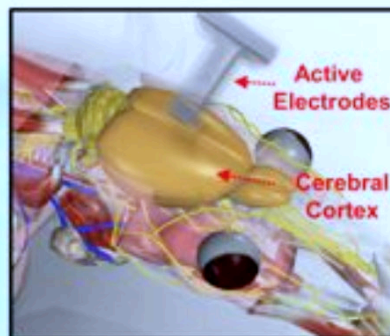
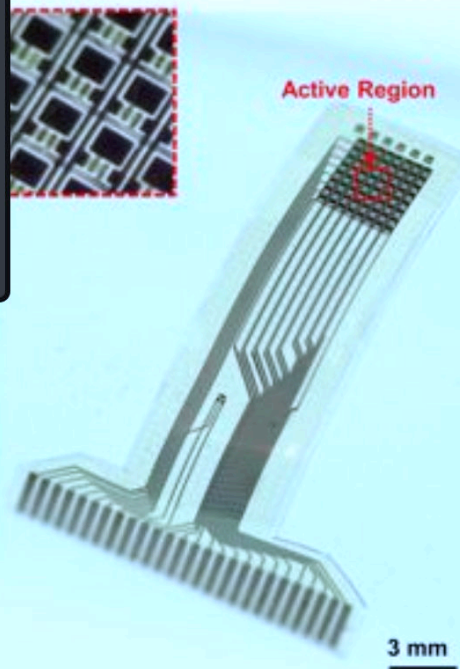
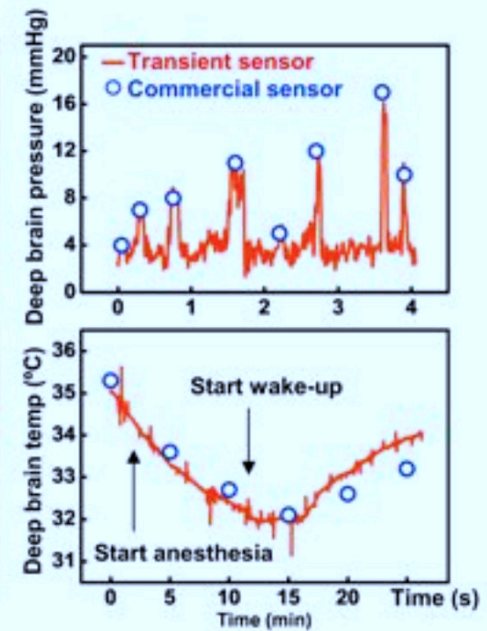
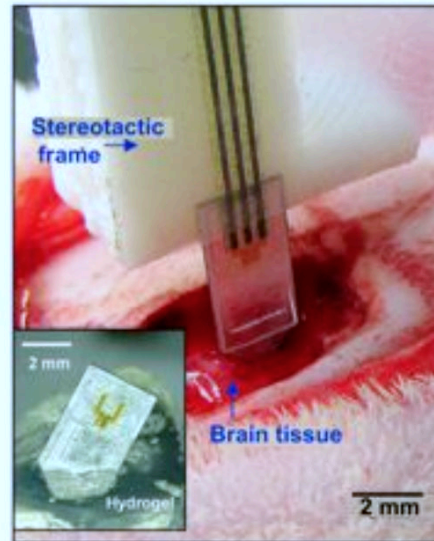
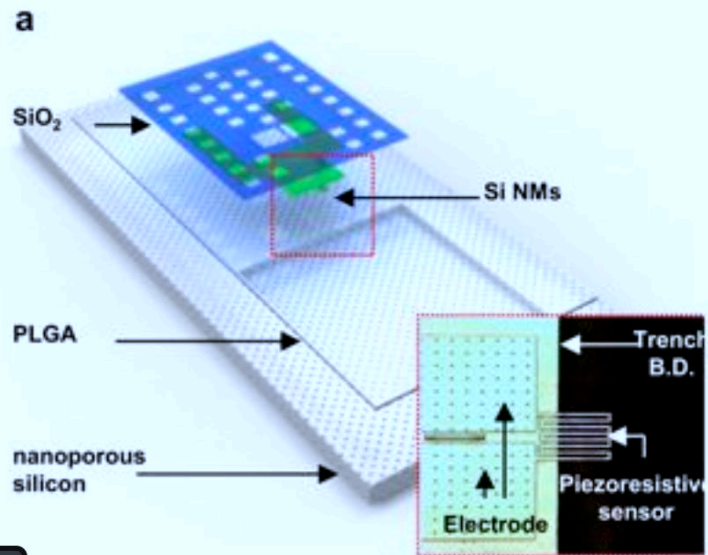
Bion



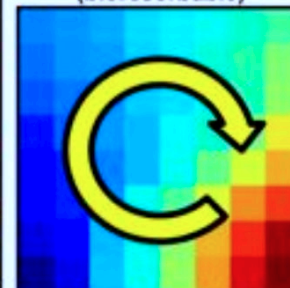




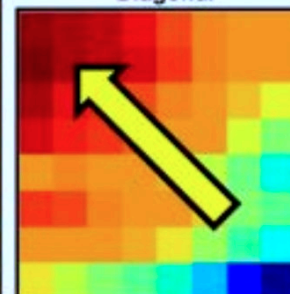
❖ Transient Electronics 2



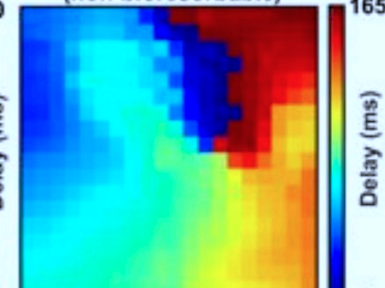
Clockwise spiral (bioresorbable)



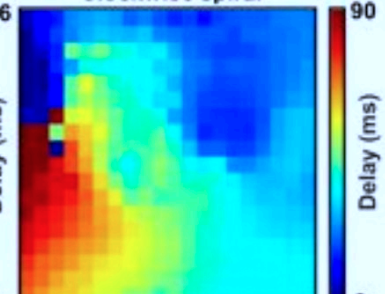
Diagonal



Counterclockwise spiral (non-bioresorbable)

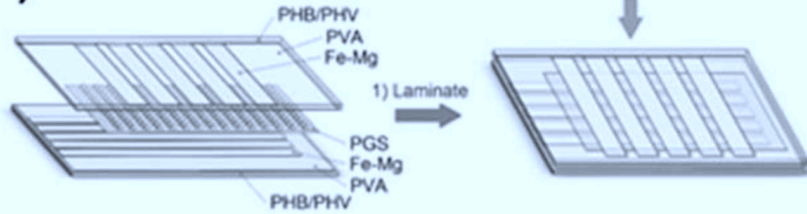


Clockwise spiral

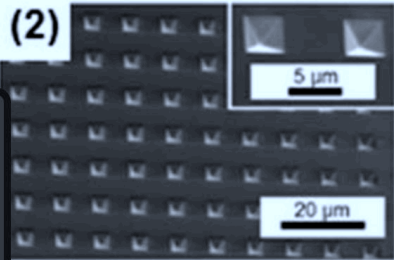


(a)

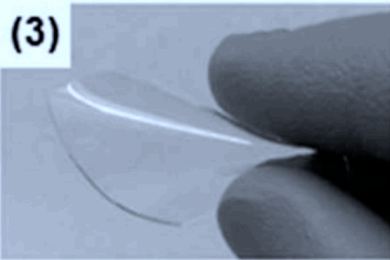
(1) All biodegradable pressure sensor



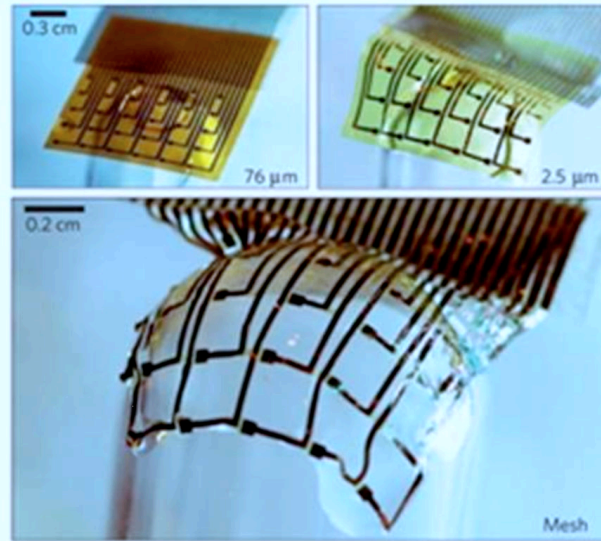
(2)



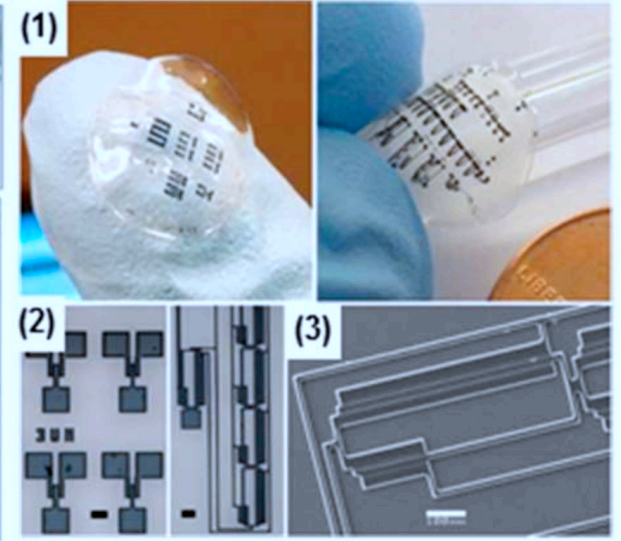
(3)



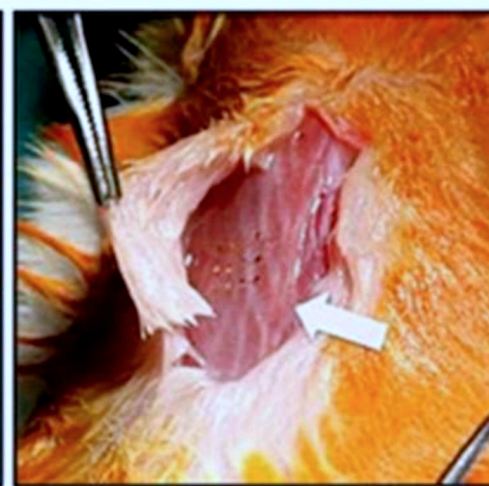
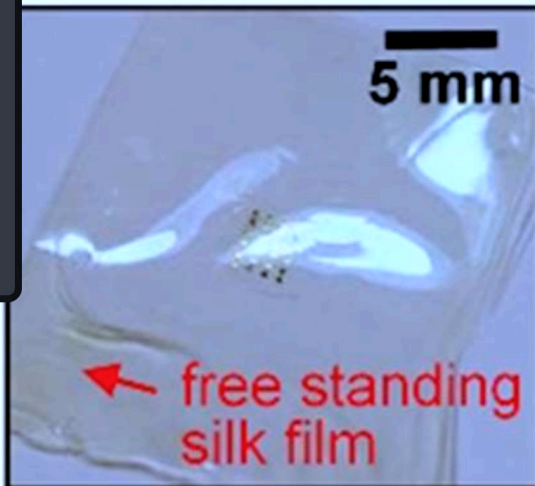
(b)

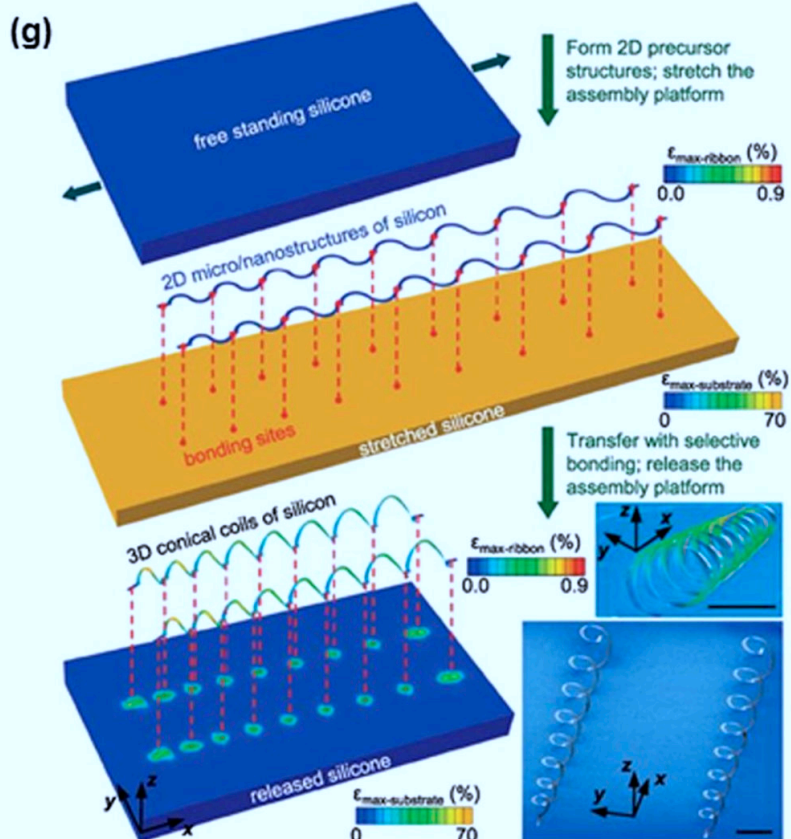
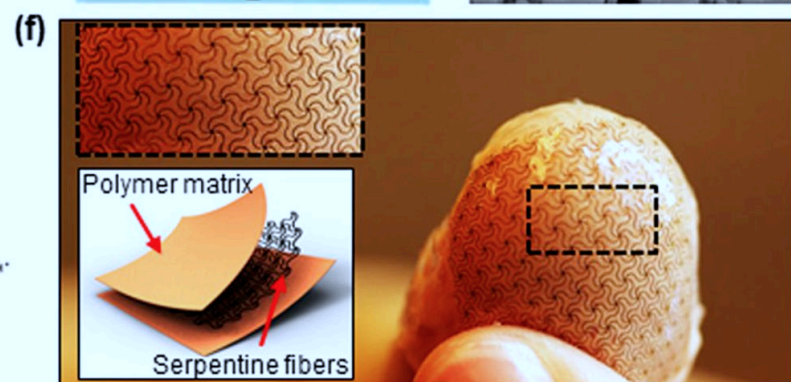
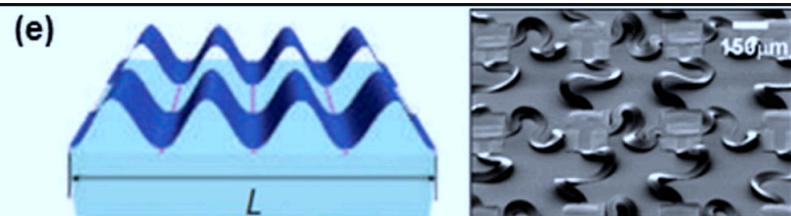
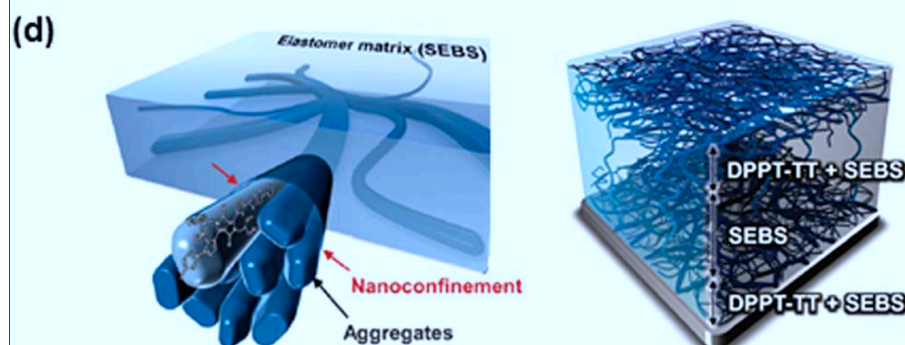
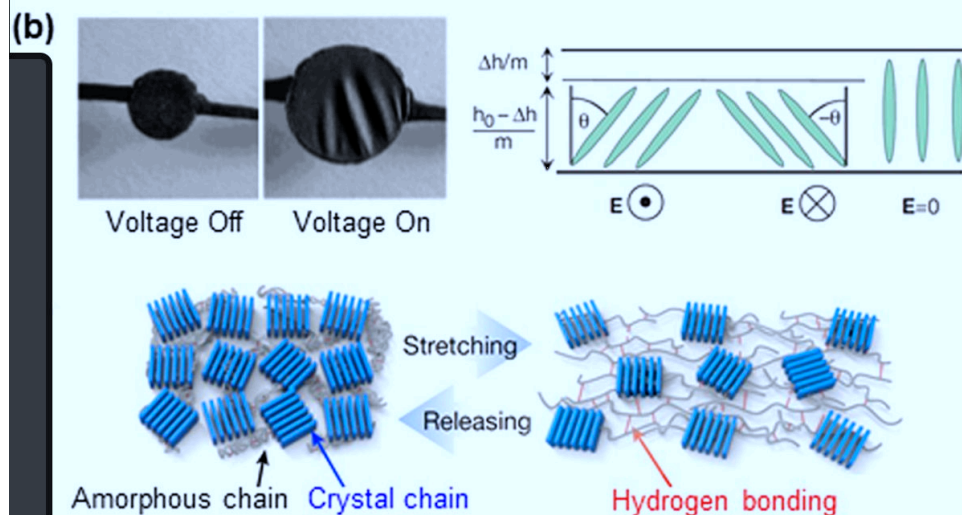
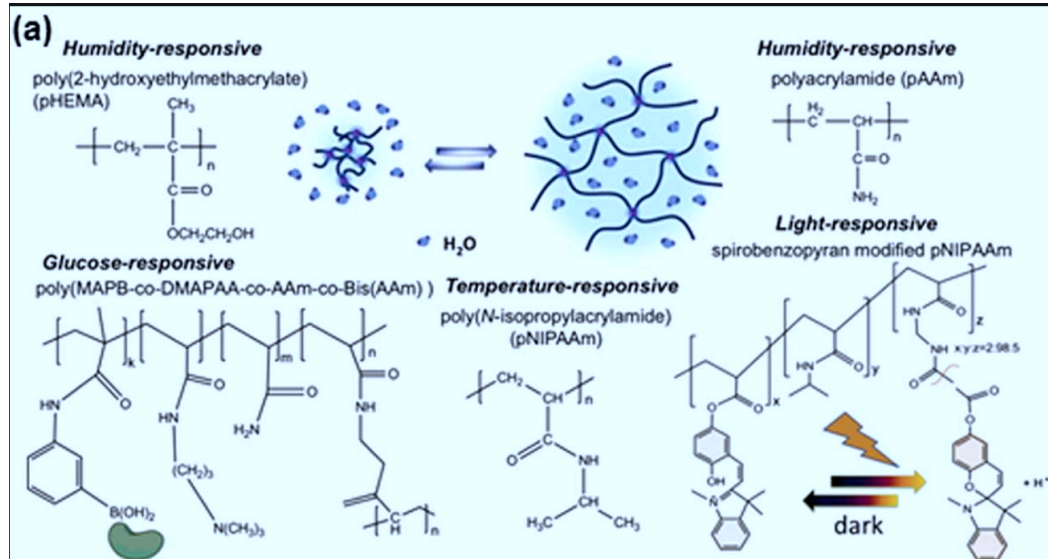


(c)



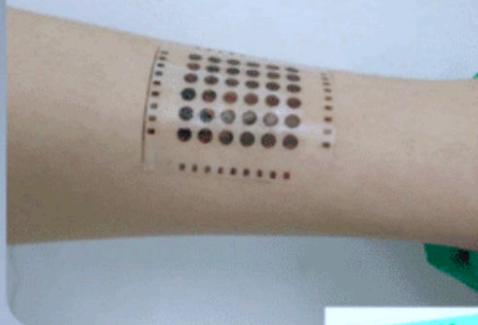
d)



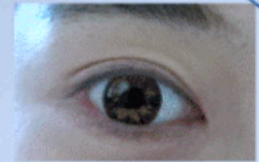


(a)

Good Adhesion



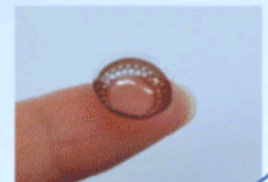
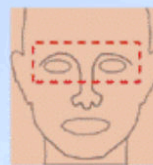
Replace vision



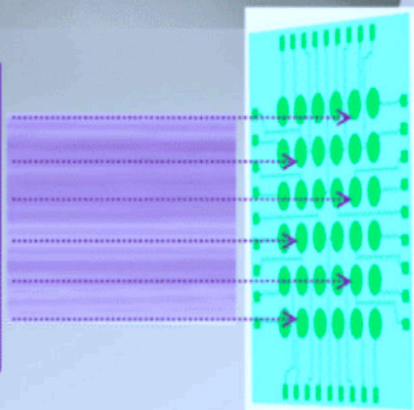
Flexible



Mimic retina



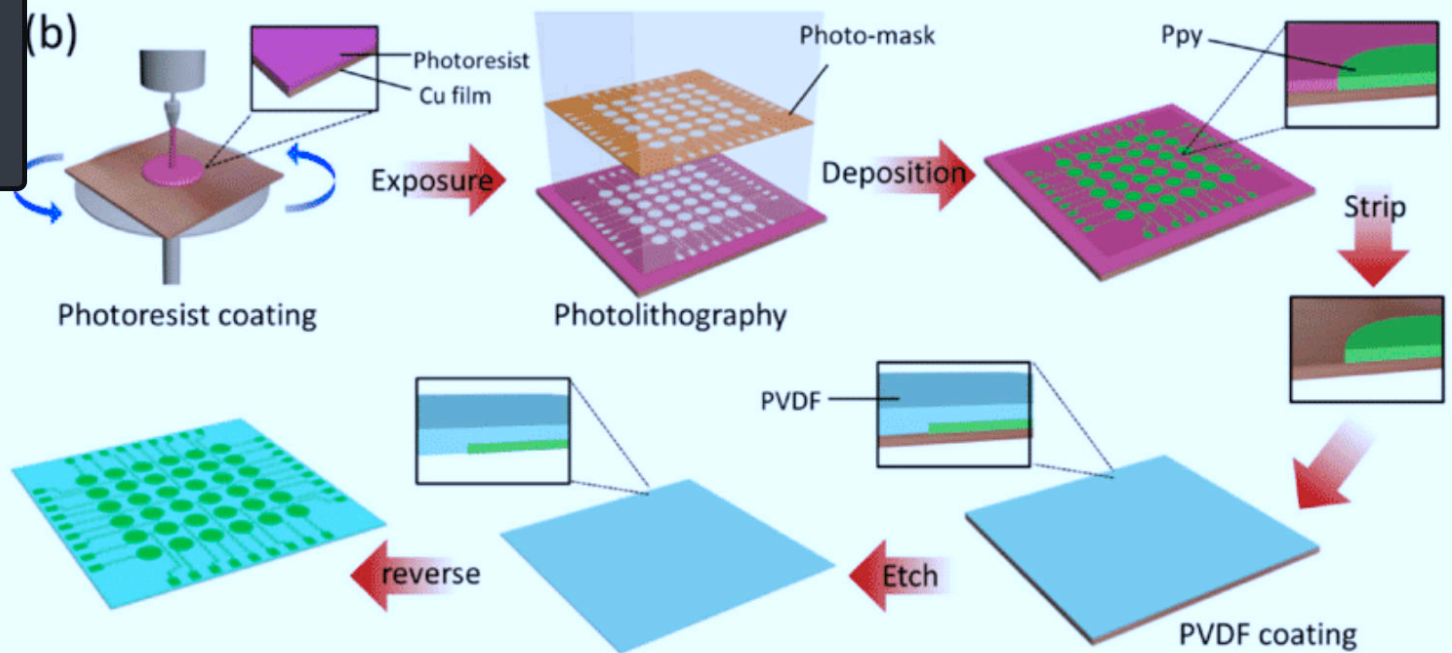
Ultraviolet light

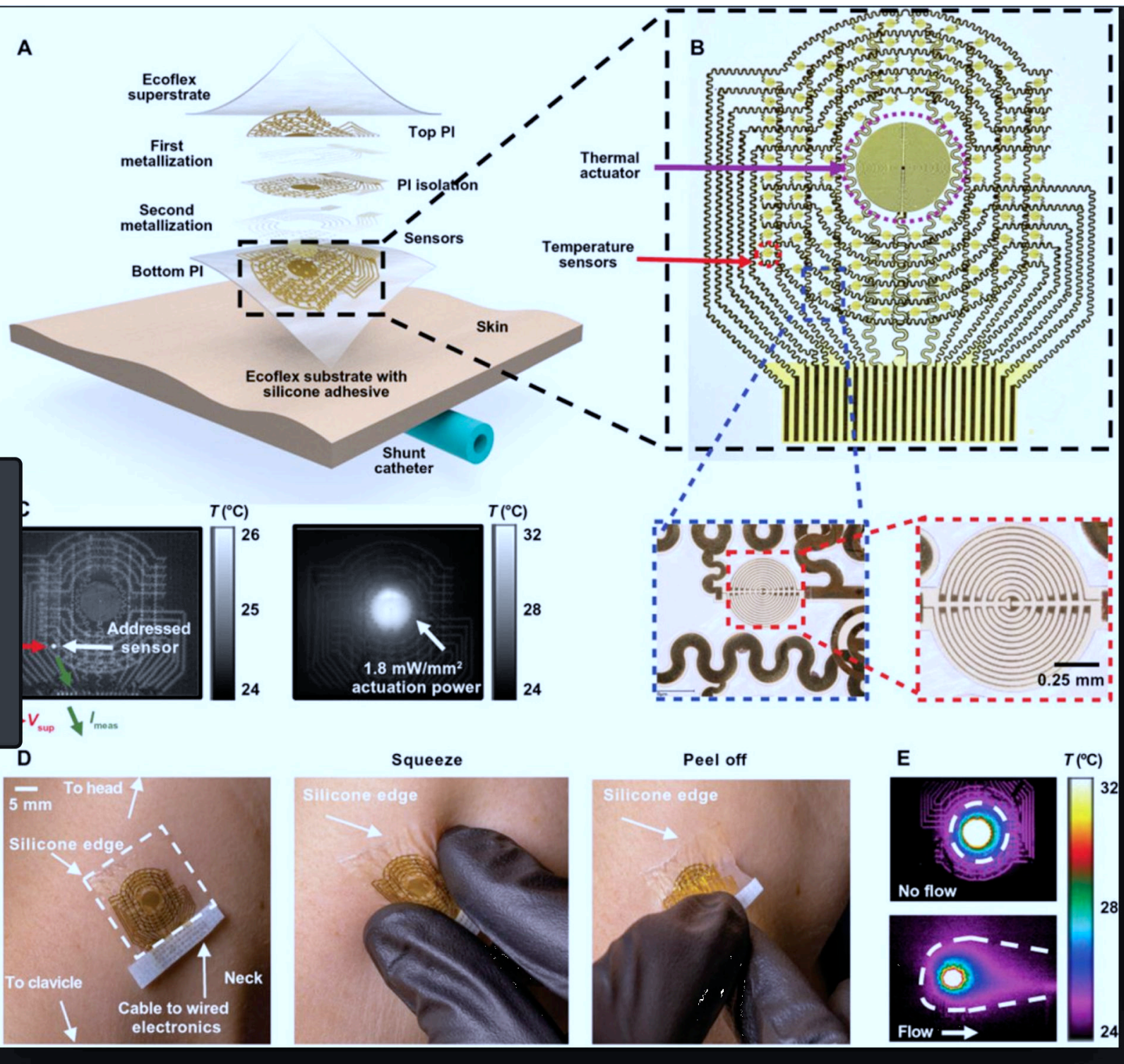


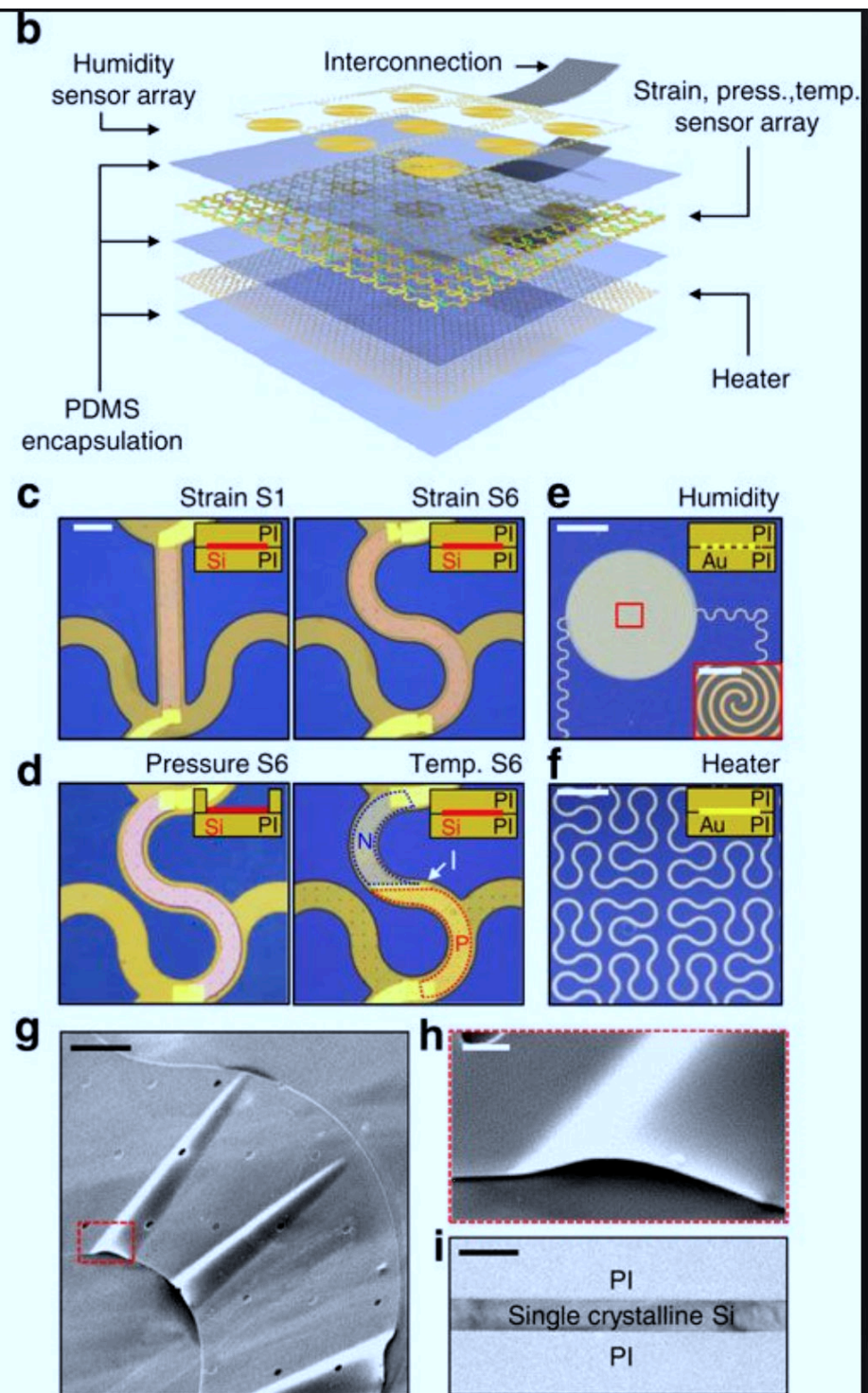
PVDF

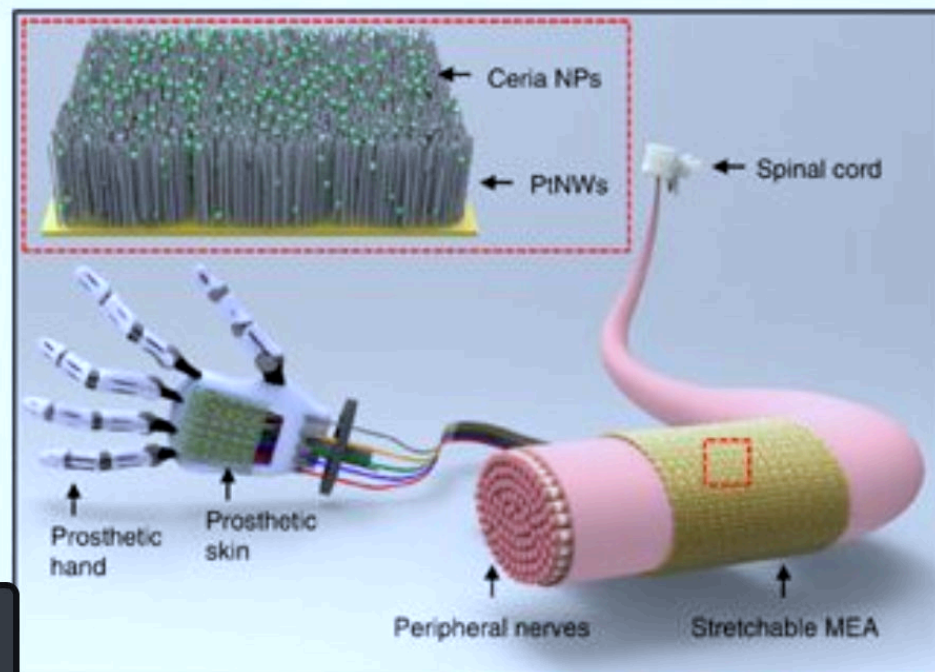
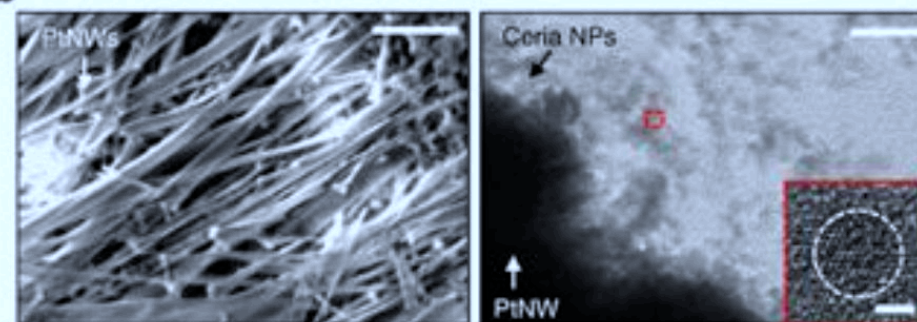
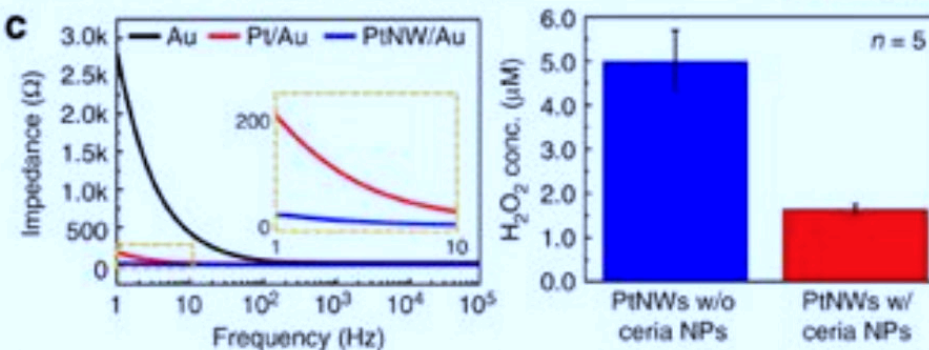
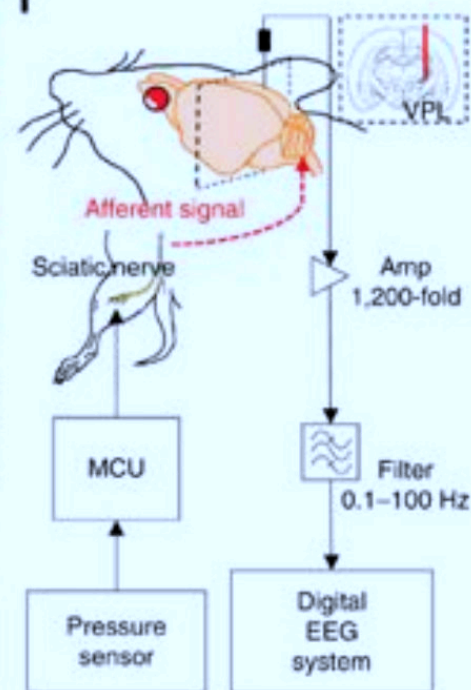
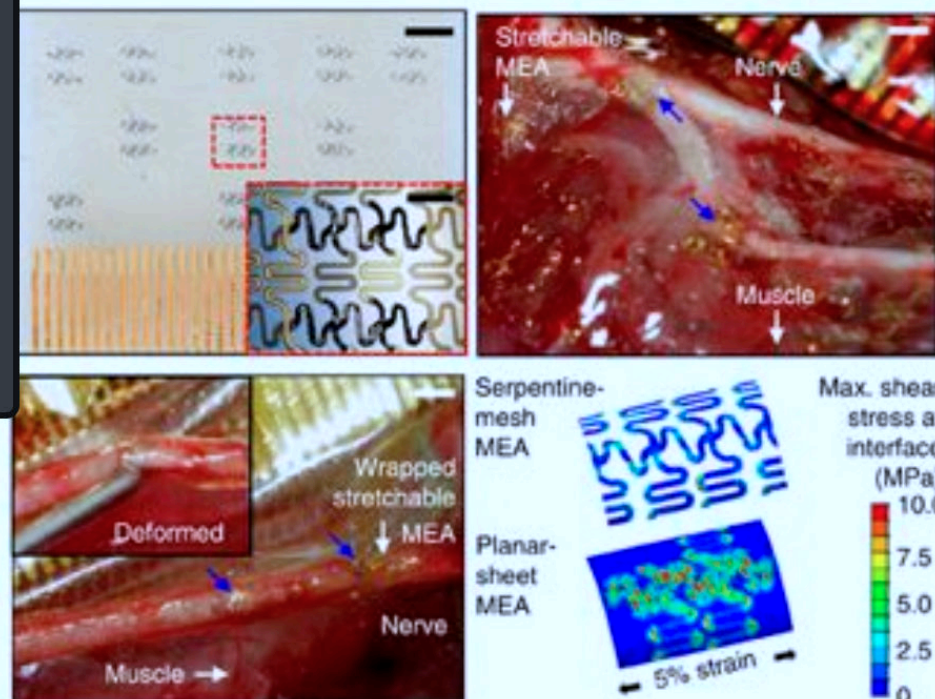
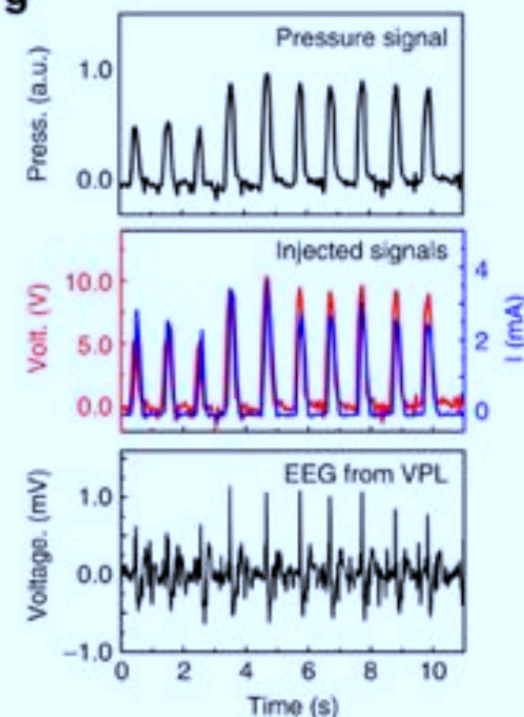
Ppy

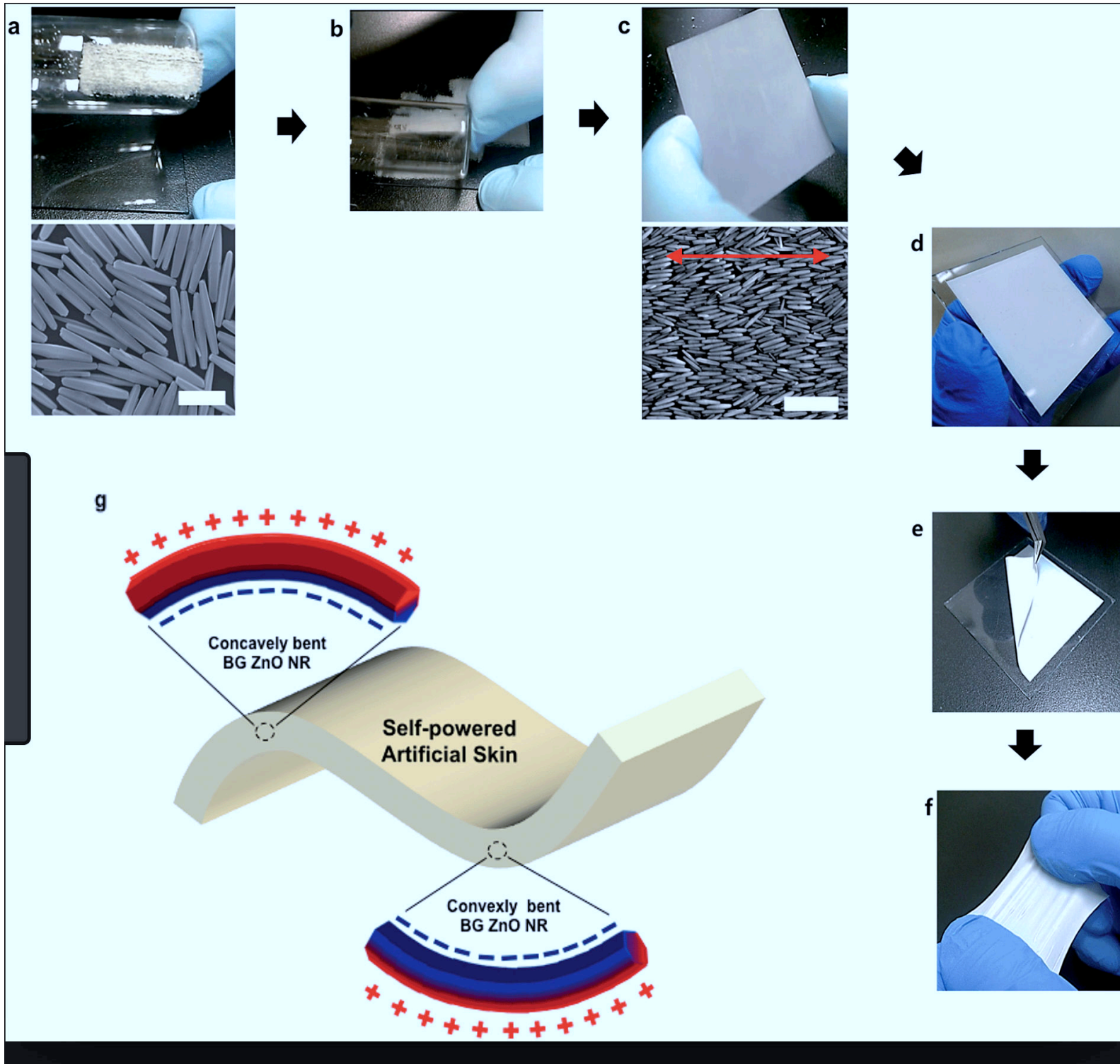
(b)

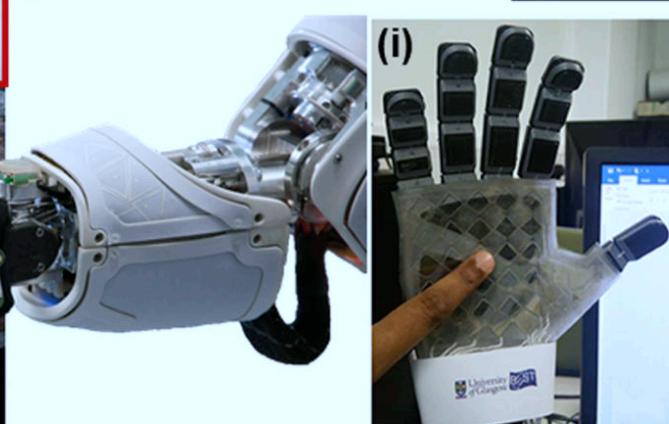
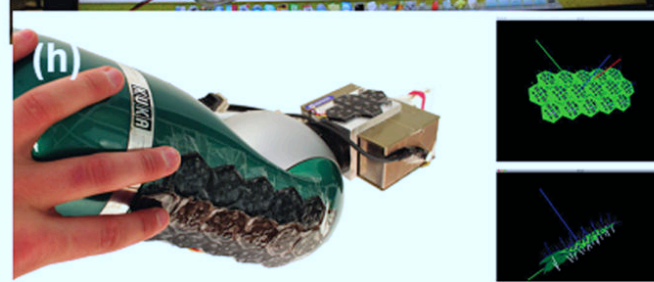
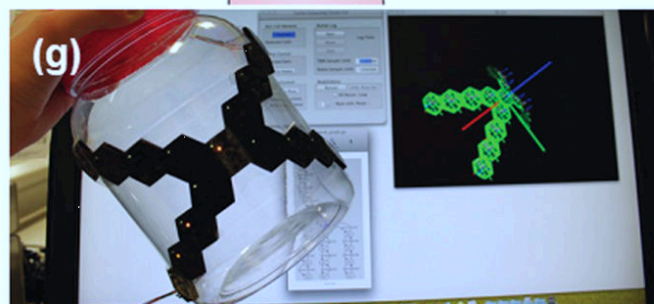
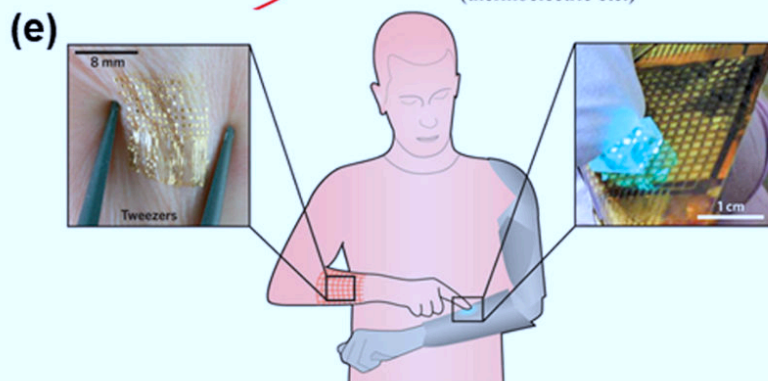
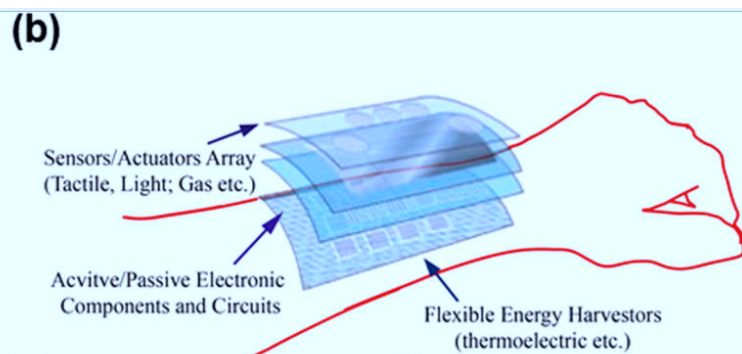
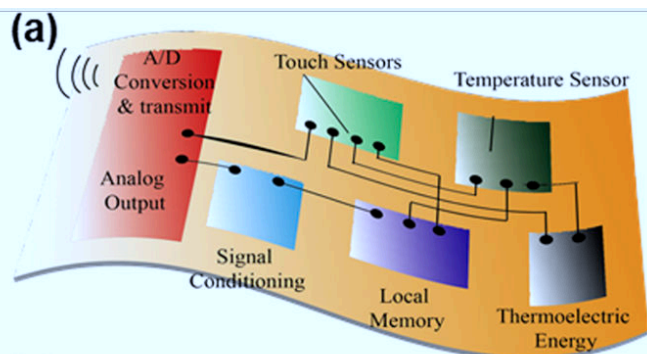


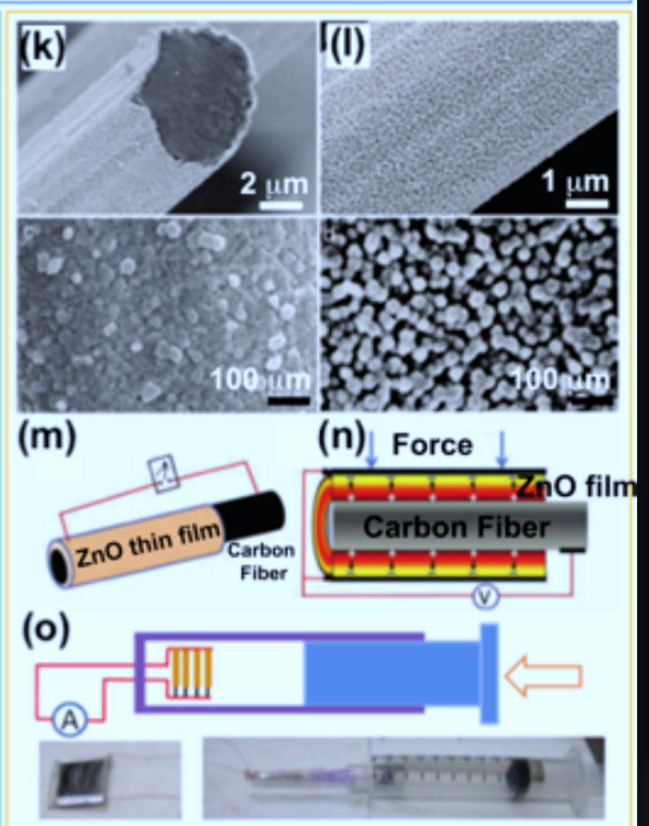
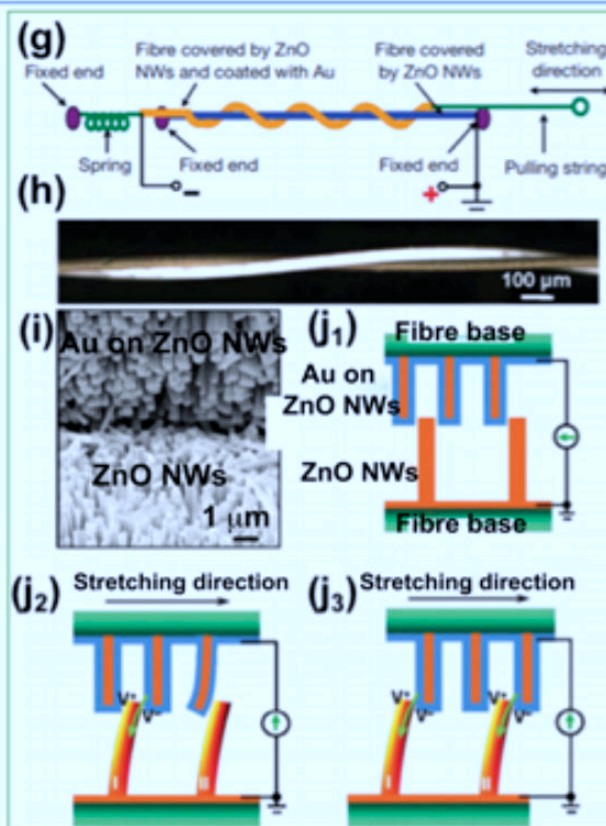
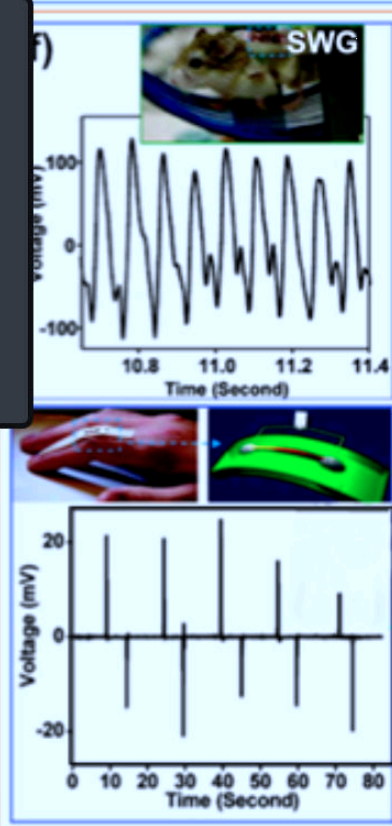
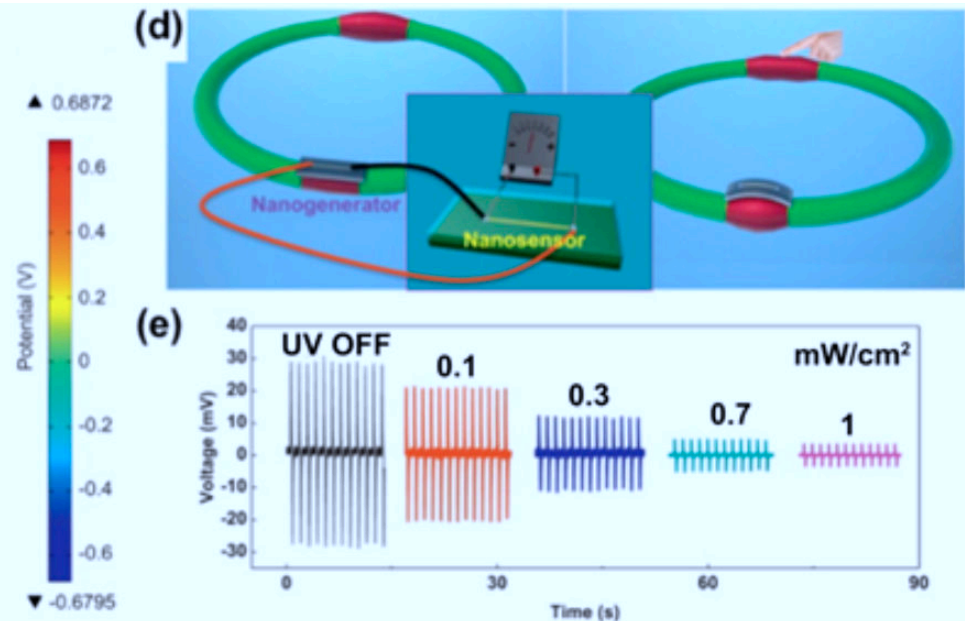
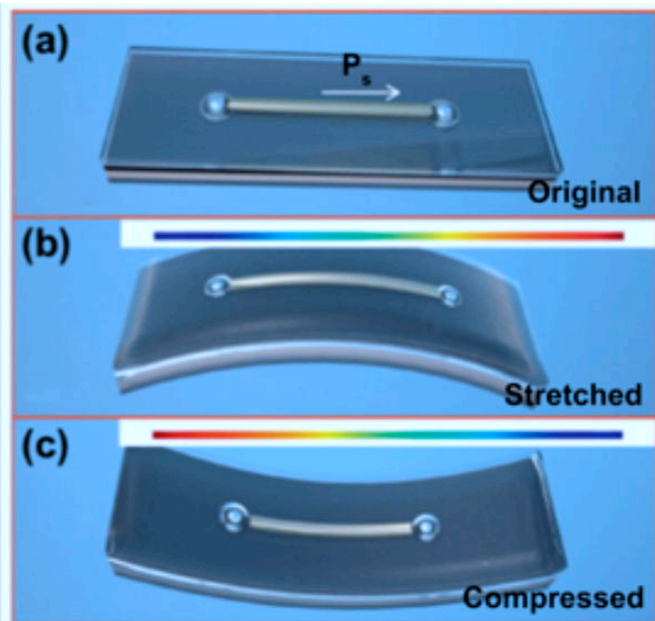


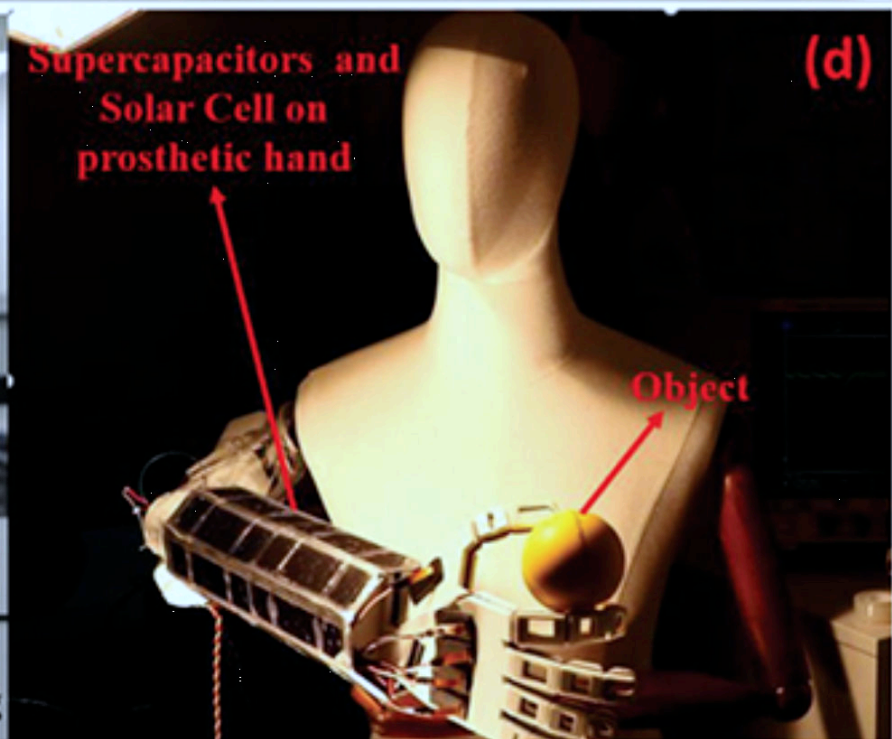
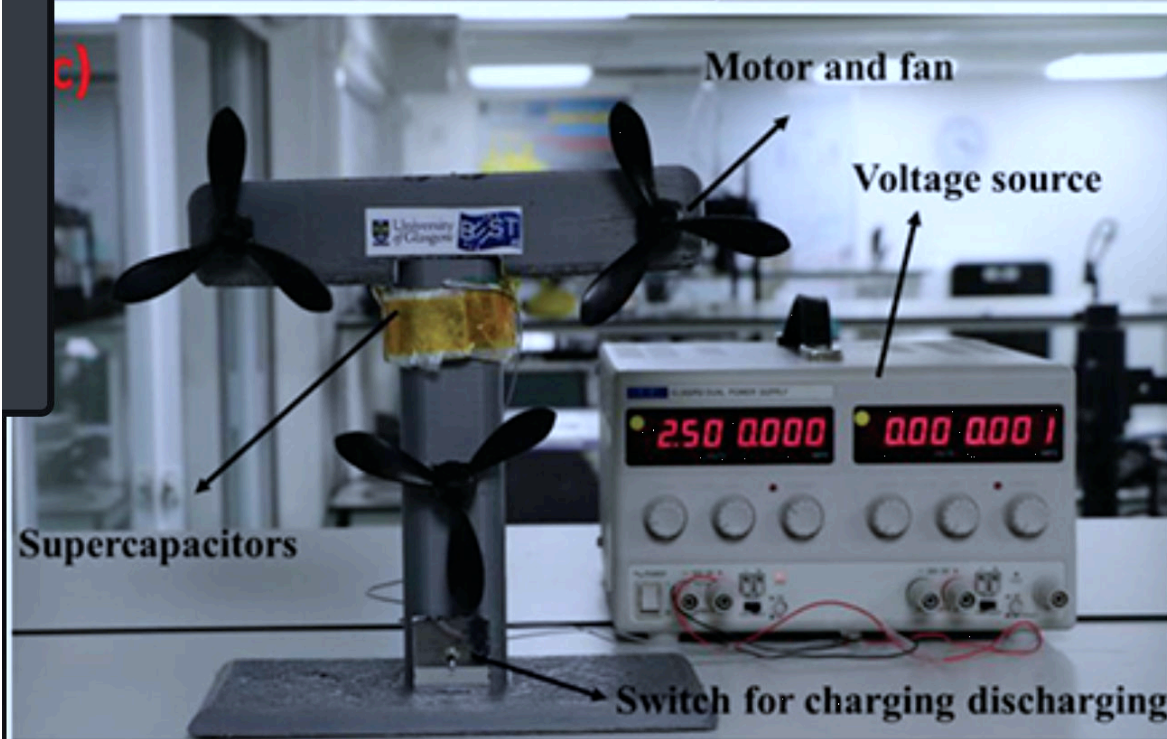
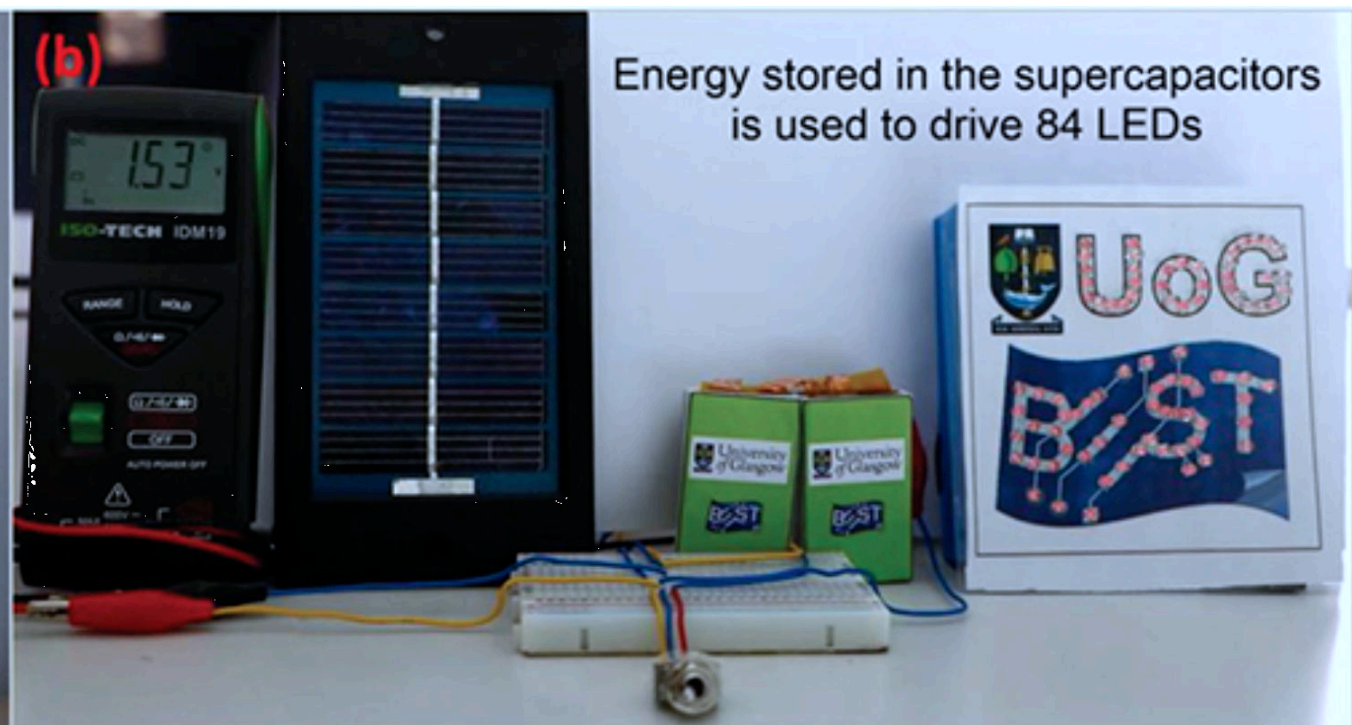
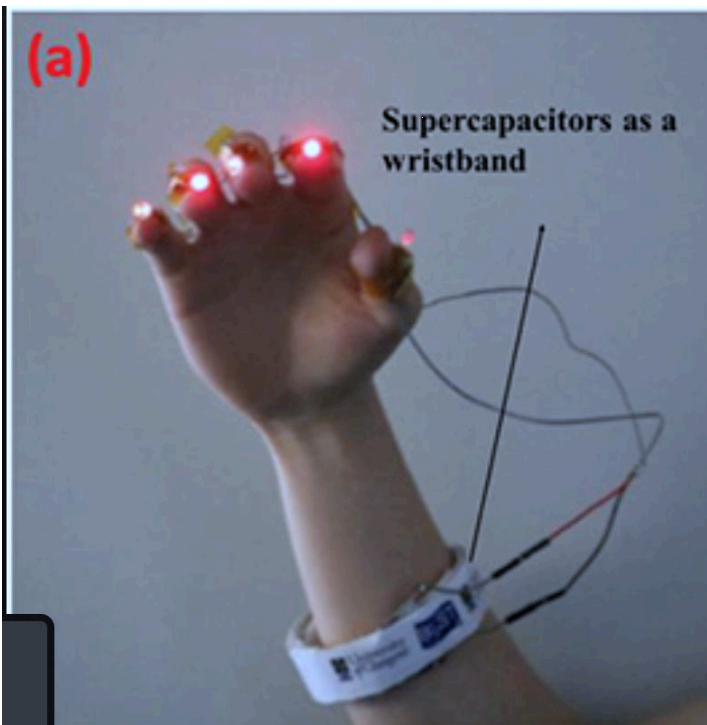


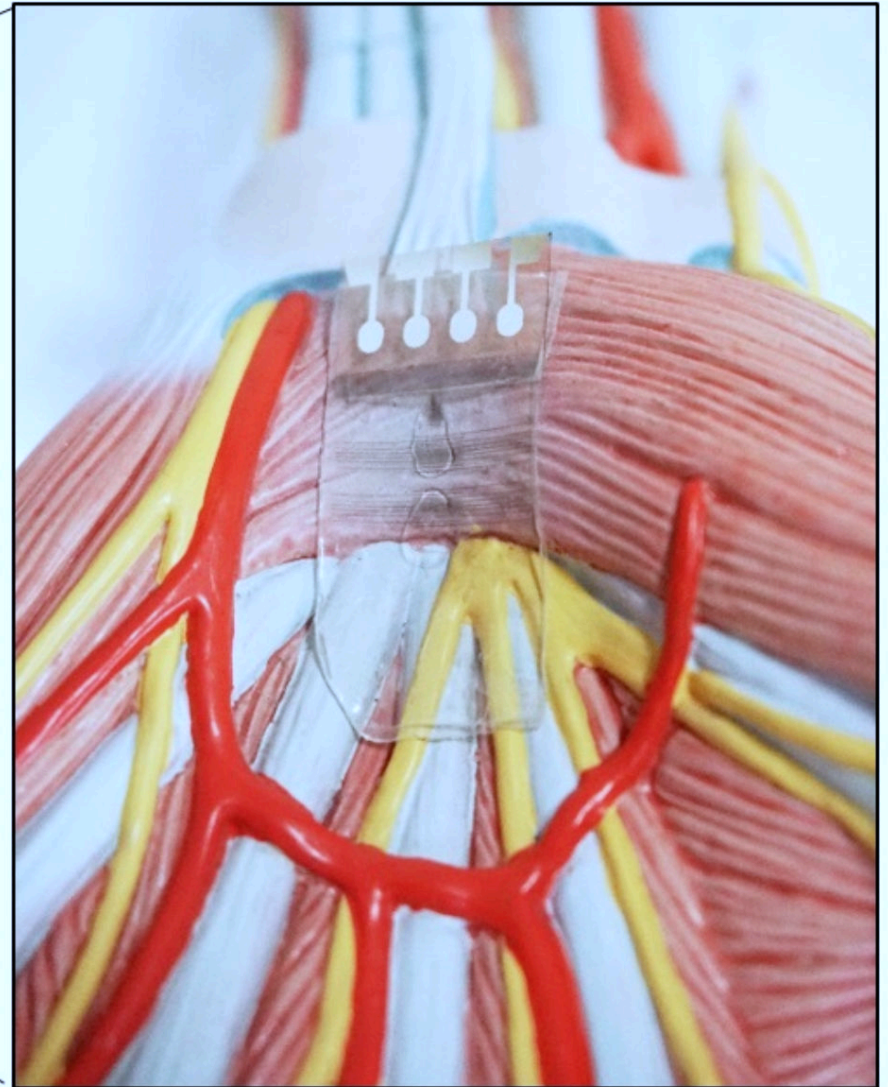
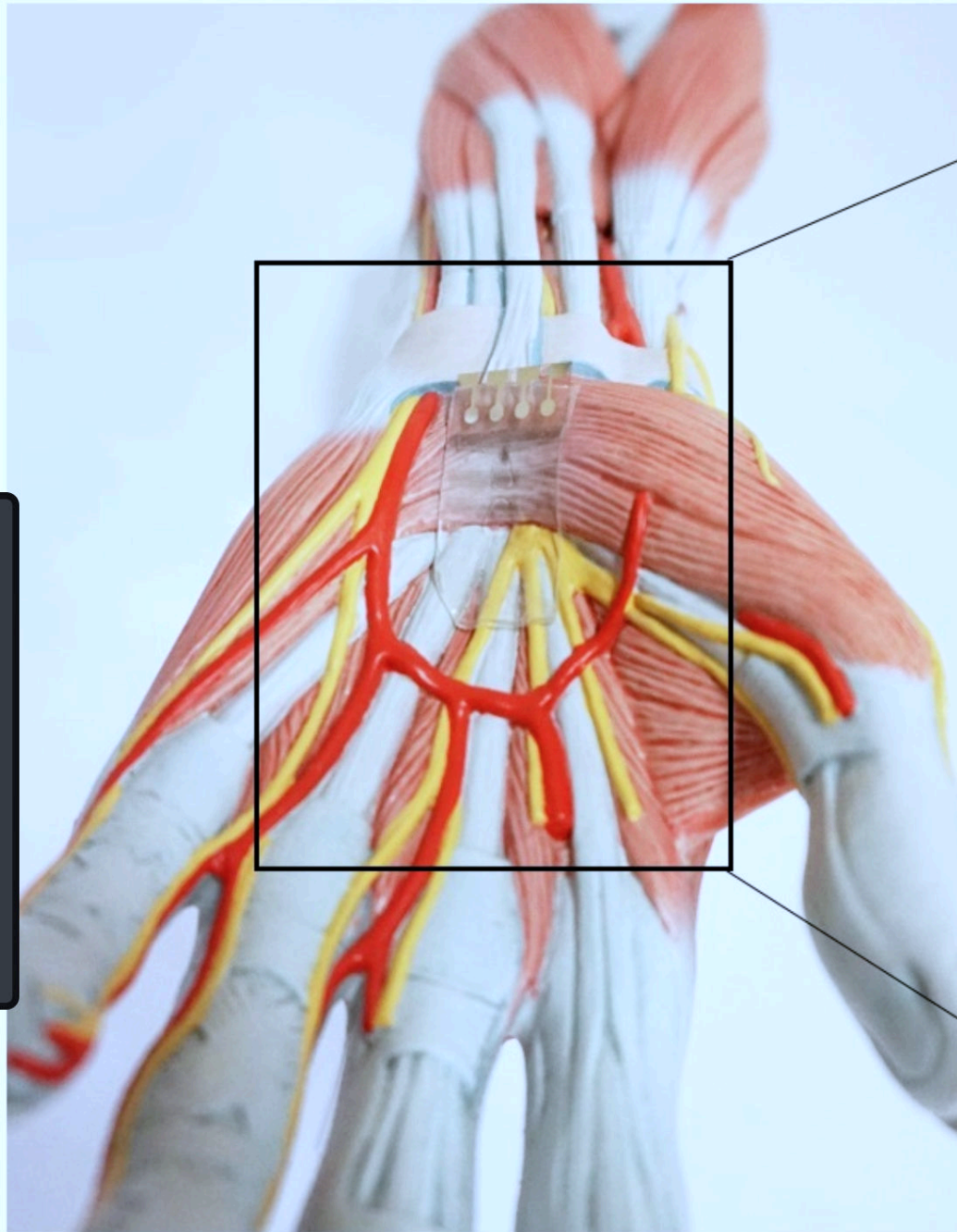
a**b****c****f****g**

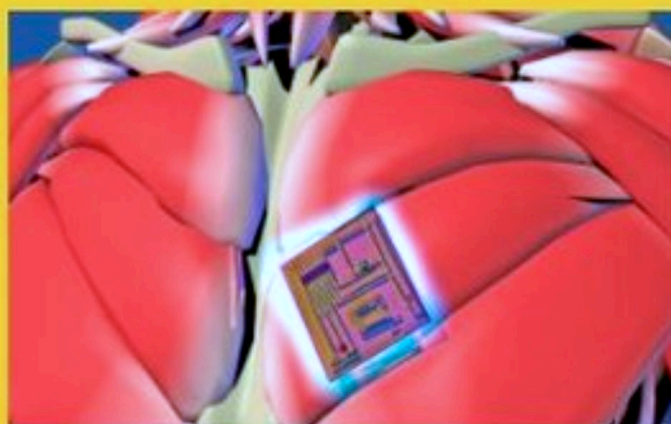






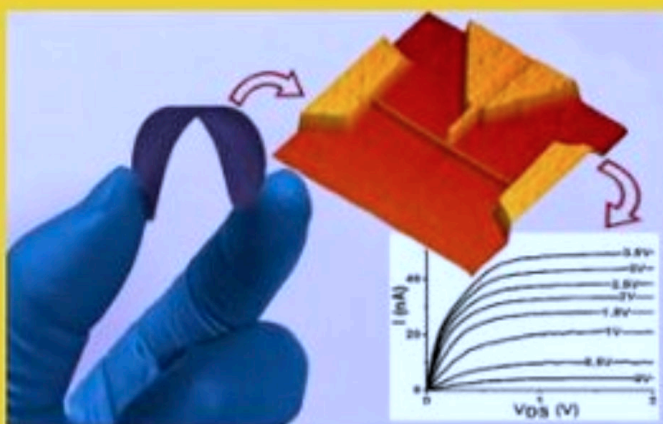






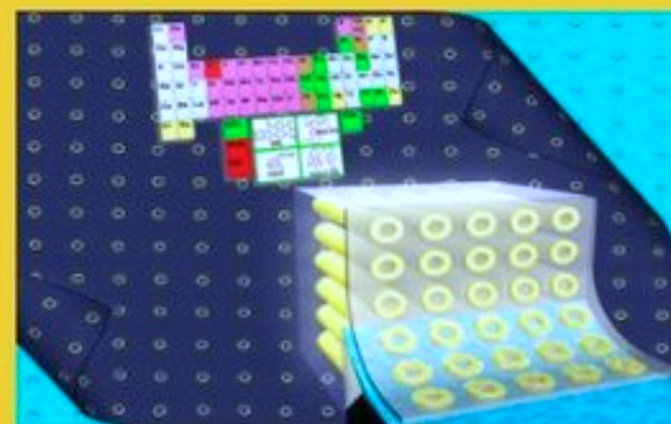
Implantable Devices

Flexible and Biocompatible Electronics



Flexible Electronics

Flexible and Stretchable Electronics



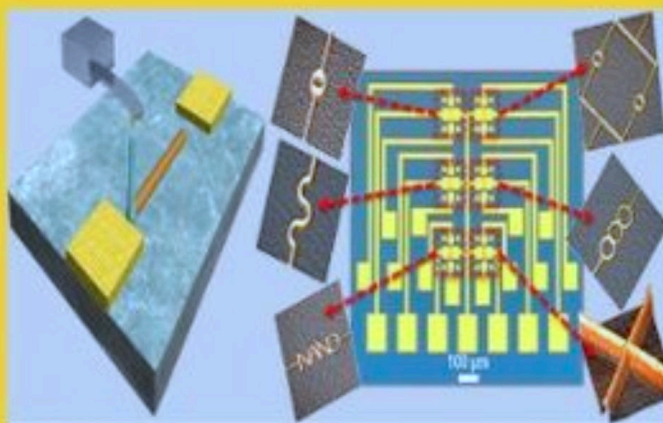
Flexible Photonics

Bendable Photonic Components



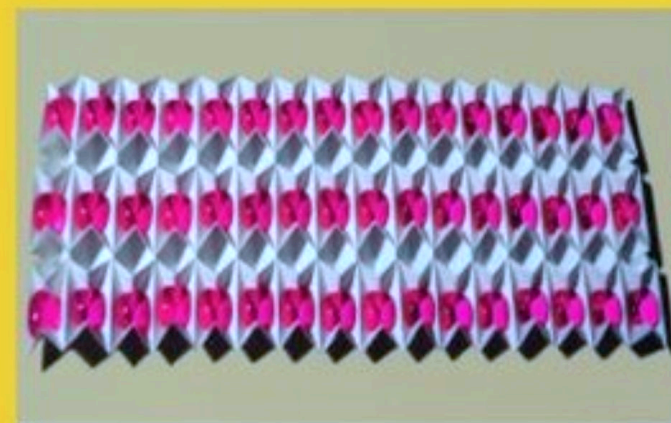
Soft Robotics

Stretchable Robotic Actuators



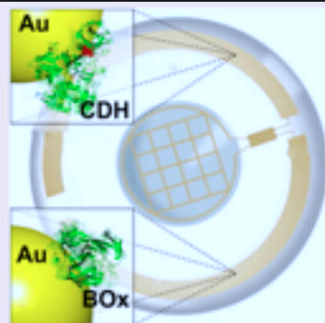
Unconventional Nanomanufacturing

Novel Nanofabrication Techniques

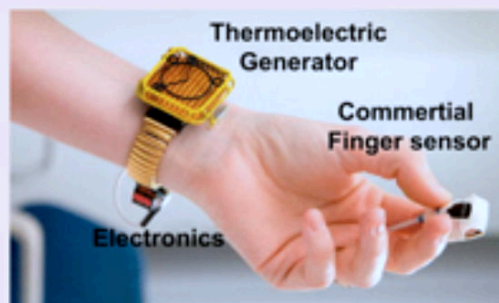


Foldable Paper-Based Devices

Low-cost Flexible Devices



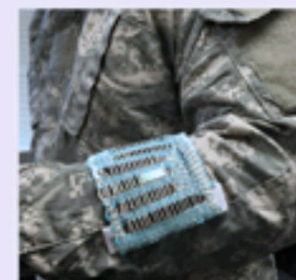
e-skin on contact-lens self-powered by biofuel cells



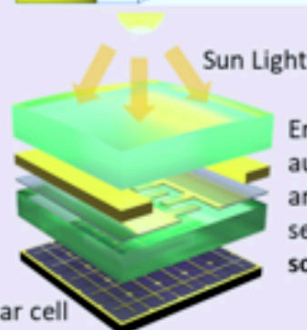
Wearable e-skin self-powered by thermoelectric generators



Health care e-skin self-powered by triboelectric generators



e-skin on fabrics, self-powered by piezoelectric generators



Energy-autonomous tactile and flexible e-skin self-powered by solar cells

Self-powered e-skin

Energy Harvesting

Energy Storage

Chemical Energy

Micro-BFC ($2.4 \mu\text{W}/\text{cm}^2$)

Enzymatic-BFC ($32 \mu\text{W}/\text{cm}^2$)

Thermal Energy

Nanostructures ($160 \mu\text{W}/\text{K}$)

Bulk ($243 \mu\text{W}/\text{K}$)

Mechanical Energy

Triboelectrics ($0.27 \text{ mW}/\text{cm}^2$)

Electromagnetics ($2.2 \text{ mW}/\text{cm}^2$)

Piezoelectrics ($2.7 \text{ mW}/\text{cm}^2$)

Light Energy

DSSCs ($11.8 \text{ mW}/\text{cm}^2$)

Organic PVs ($13.3 \text{ mW}/\text{cm}^2$)

MJ Solid State PVs ($34.5 \text{ mW}/\text{cm}^2$)

Li Batteries

LiMnTiO₄/MWCNT (0.16 Ah/g)

HsGDY electrode (1.05 Ah/g)

MoS₂ NSs/CNP electrode (1.09 Ah/g)

Si NW@G@rGO electrode (1.6 Ah/g)

Supercapacitors

Carbon woven fabric CWF/PANI ($28.21 \mu\text{Wh}/\text{cm}^2$)

Fiber-shaped asymmetric supercapacitor ($53.3 \mu\text{Wh}/\text{cm}^2$)

Textile based NCT @ NiAl-LDH ($134 \mu\text{Wh}/\text{cm}^2$)

Carbon cloth based Ni/Co₂O₄ ($240 \mu\text{Wh}/\text{cm}^2$)

Cloth based carbon network/polyaniline/MnO₂ ($413 \mu\text{Wh}/\text{cm}^2$)

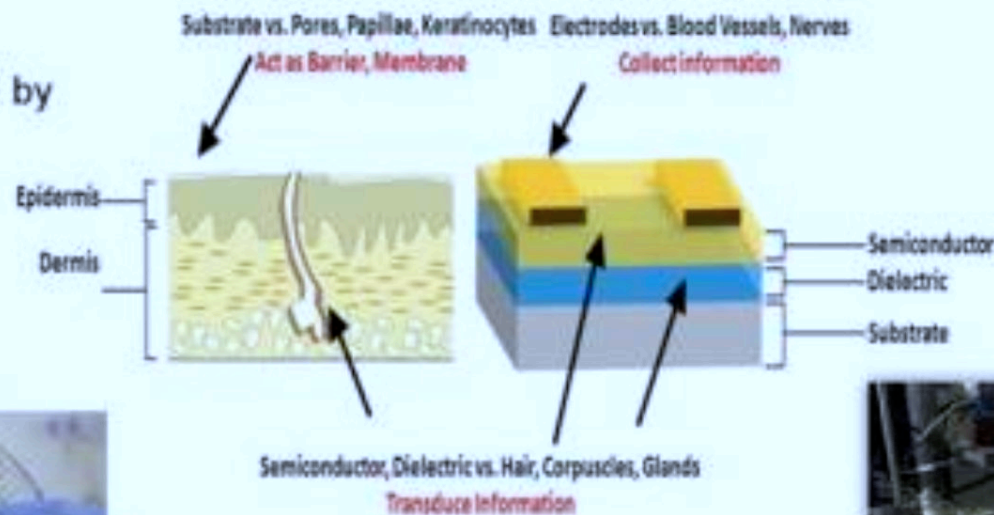
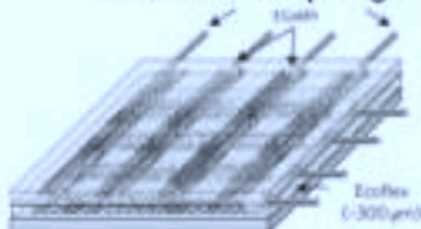
Electronic-skin

The Electronic Skin Concept-"Super Skin"

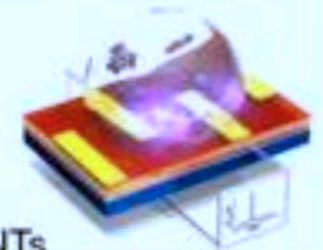
Integrated sensing skin (touch, chemical, biological and temperature sensing built on flexible and stretchable substrates that are biocompatible and biodegradable powered by stretchable solar cells and batteries



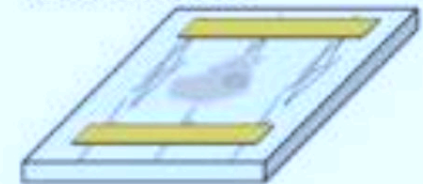
Transparent e-skin enabled by CNT nano springs



Chemical and Biosensors



Cell on CNTs



Ultra-sensitive touch sensors



Selective Group Pubs: (1) PNAS, 105, 12134-12139, 2008; (2) Nature Materials, 9, 859-864, 2010; (3) Nature Nanotech, 6, 788, 2011; (3) Adv Mat, 22, 4452-4456, 2010; (4) Accounts. Chem. Rev., ASAP, 2012

RFID-inspired wireless power
and data telemetry

Wearable antenna

IC

Flexible
platform

Electrodes

Implant antenna

Wireless brain-
machine interface

Wireless
link

Mechanical
actuators

Touch and
position
sensors

Lebedev & Nicolelis, "Brain-
machine interfaces: past,
present and future," *Trends
Neurosci.*, 29(9) 2006.

How it works

Bionic eye that bypasses the eye

Digital camera sends image

1

Pocket processor

2

Image transferred to antenna at back of glasses

3

Wireless link to brain

4

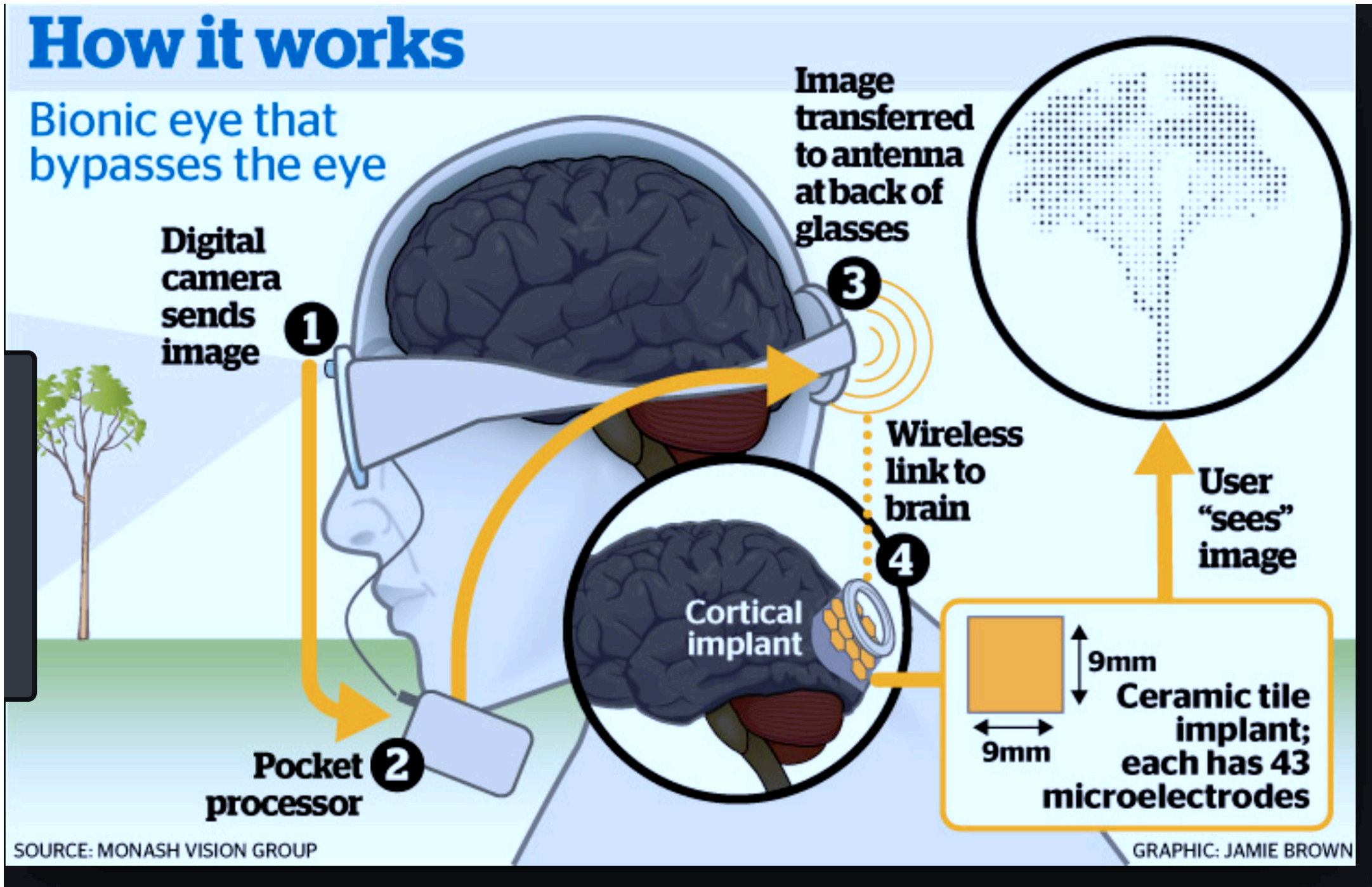
Cortical implant

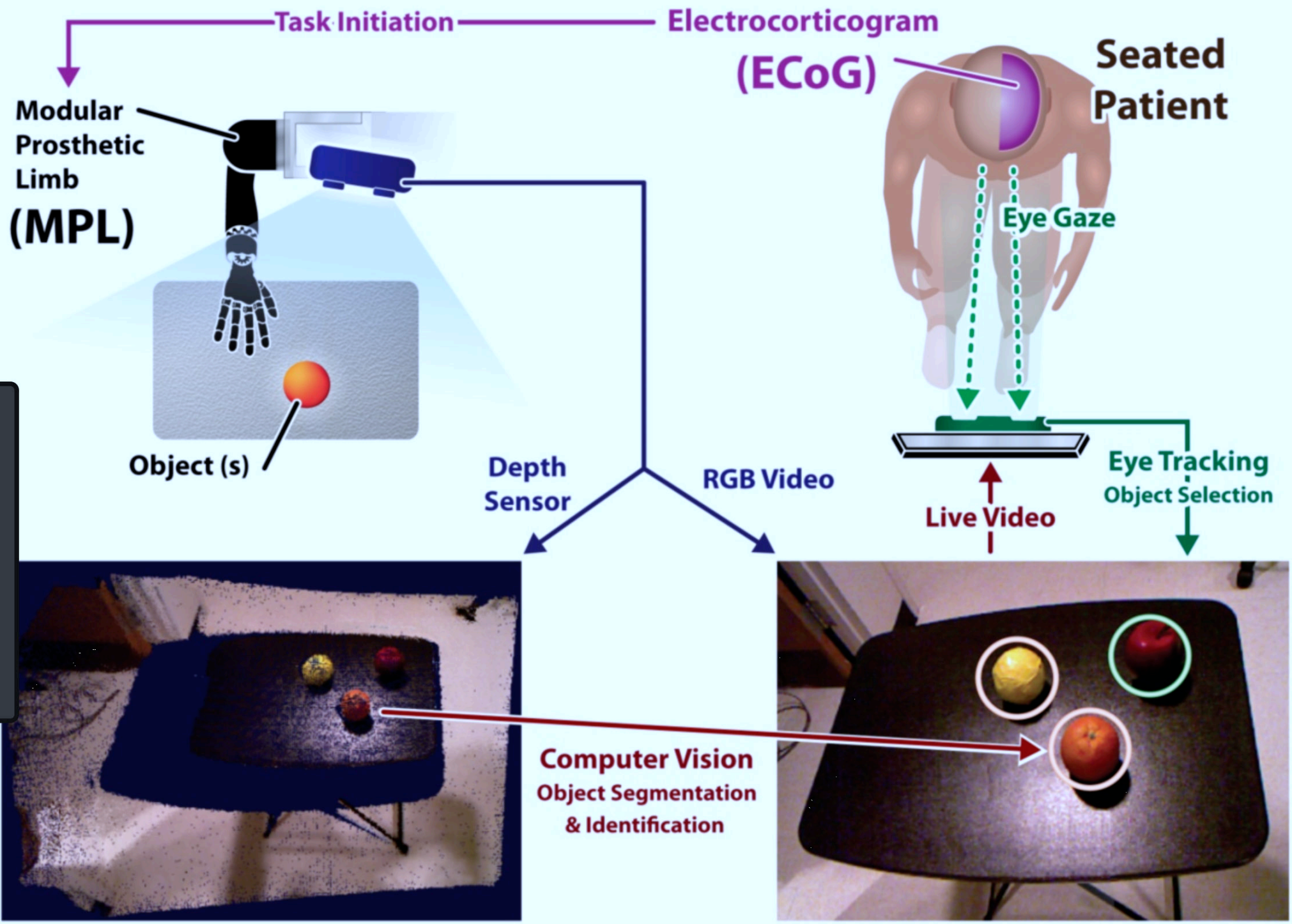
User "sees" image

9mm
9mm
Ceramic tile implant; each has 43 microelectrodes

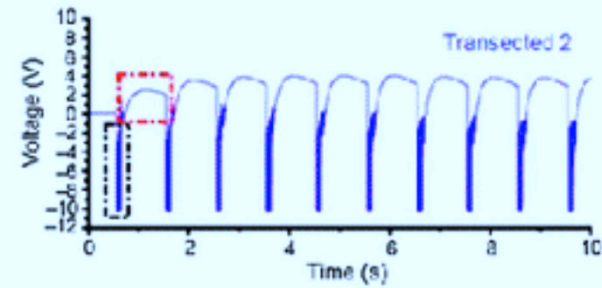
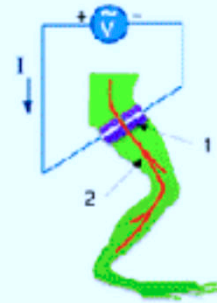
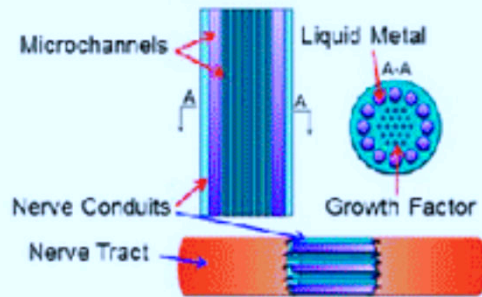
SOURCE: MONASH VISION GROUP

GRAPHIC: JAMIE BROWN

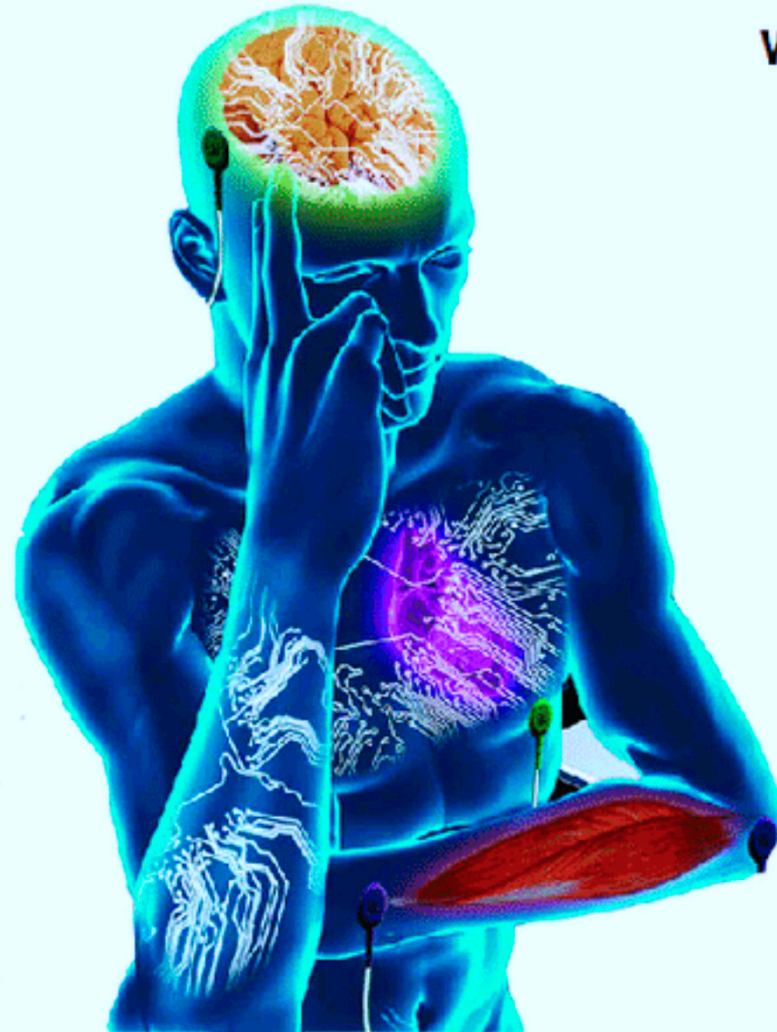
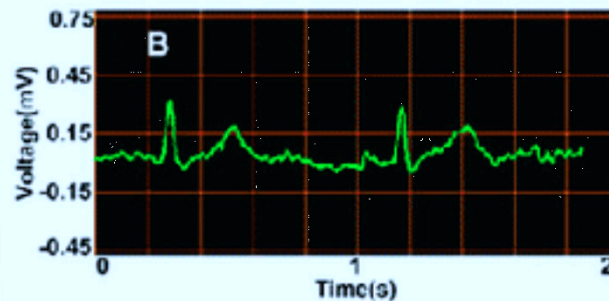
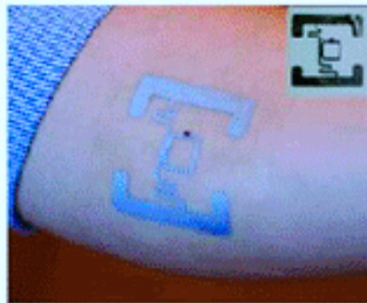




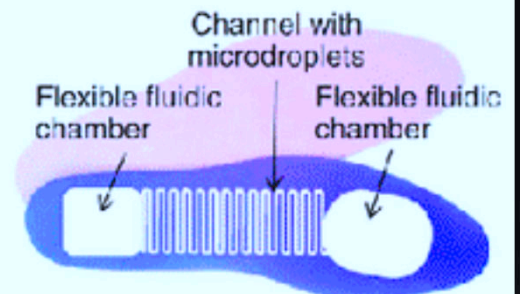
Implantable devices

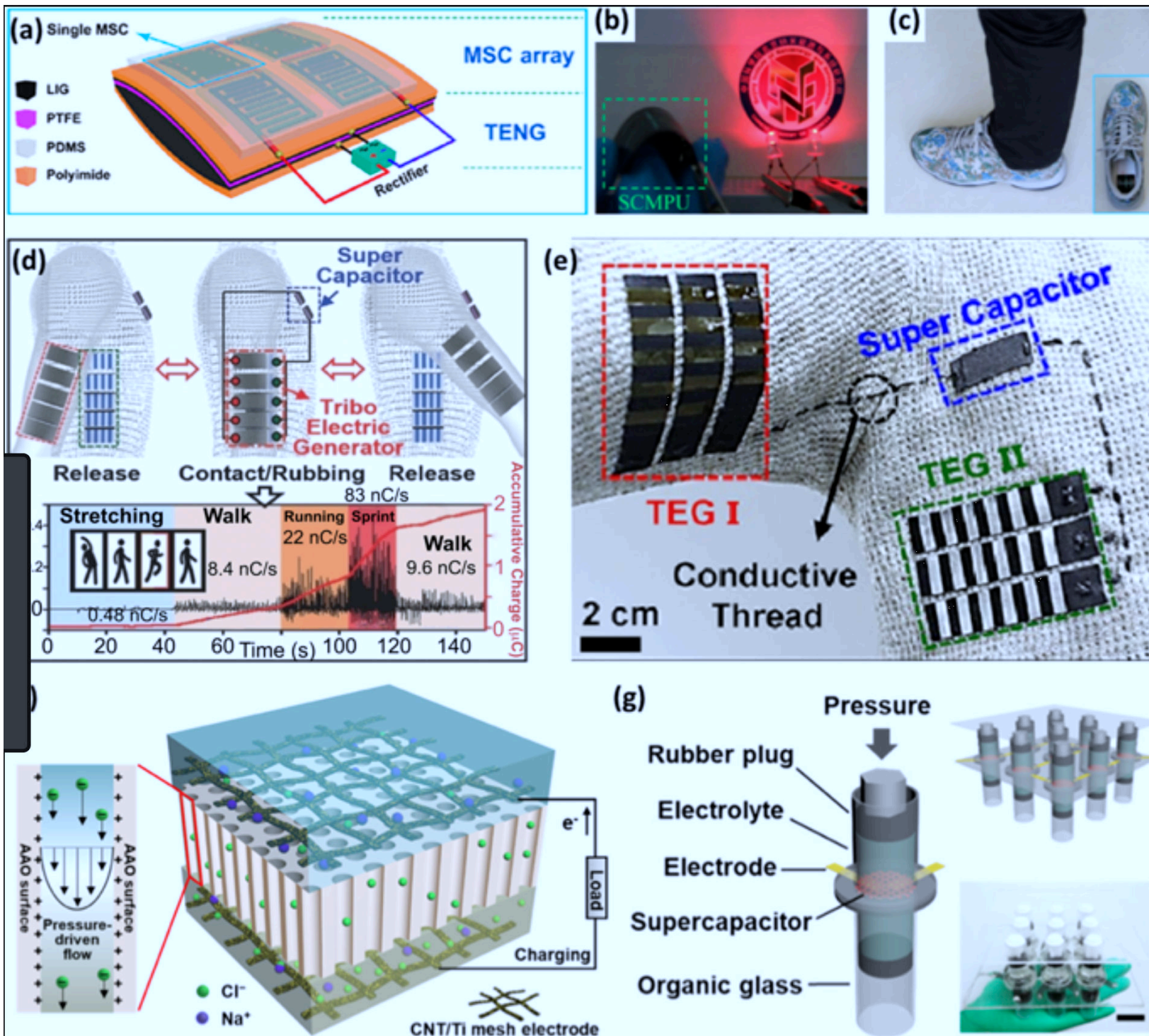


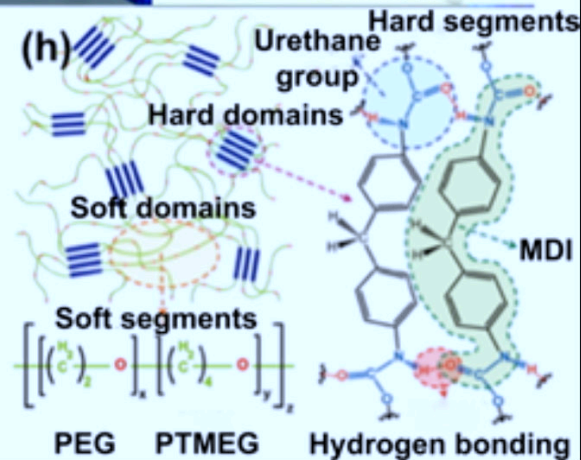
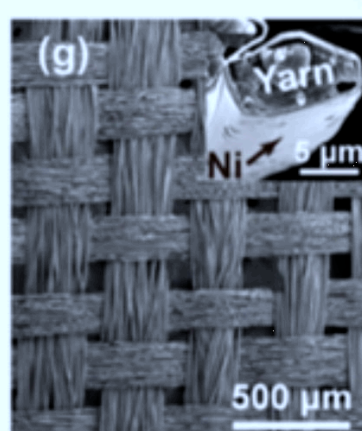
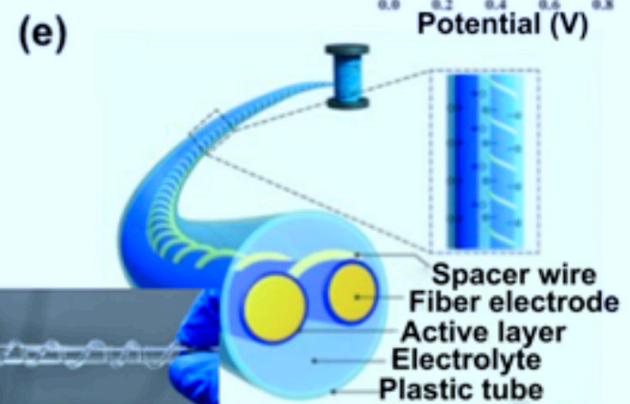
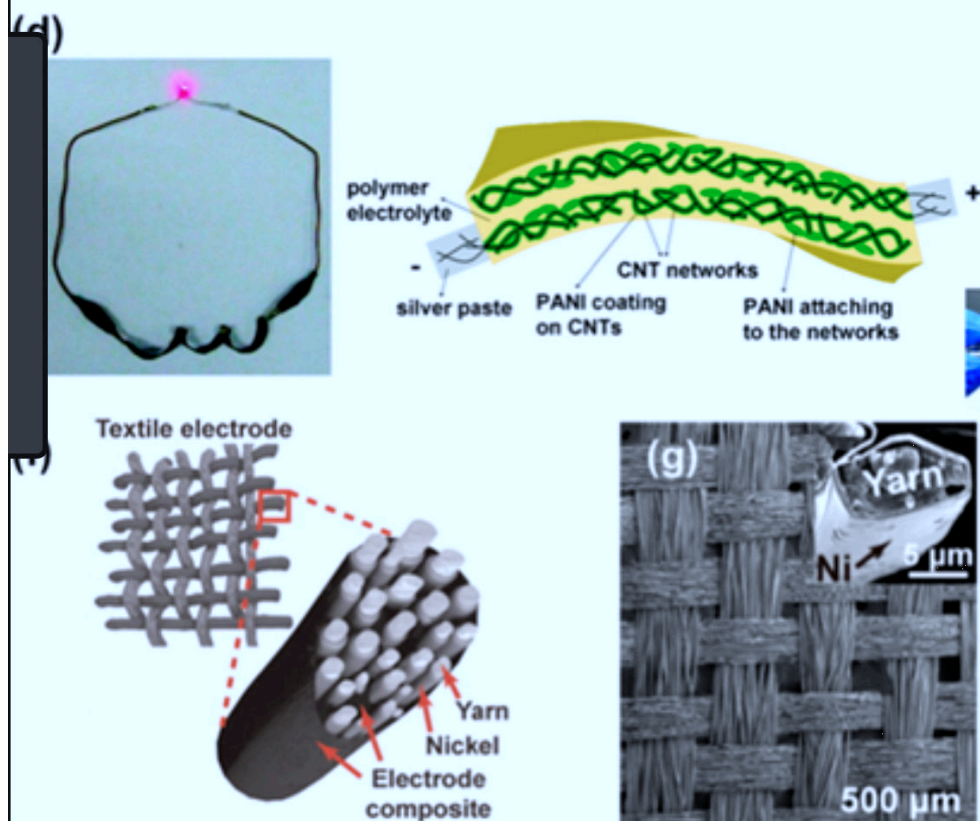
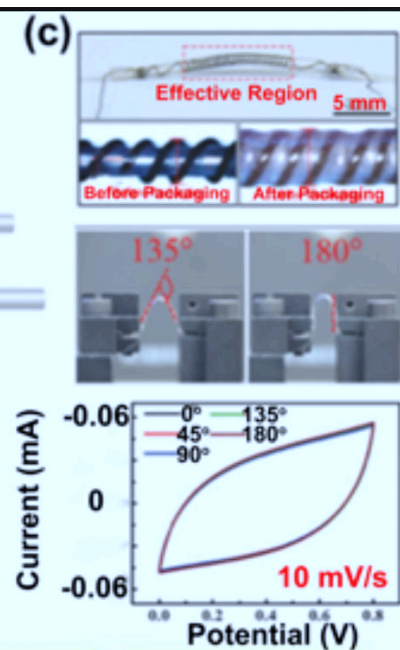
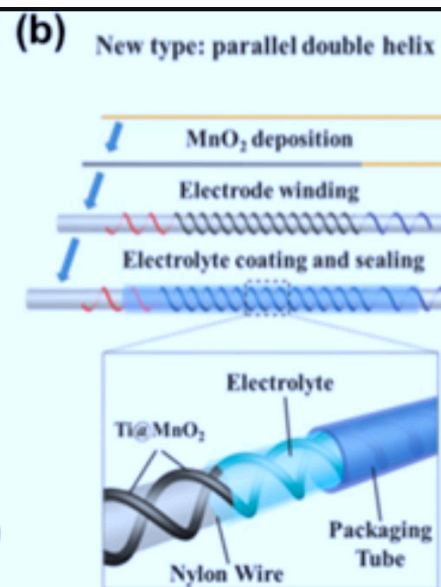
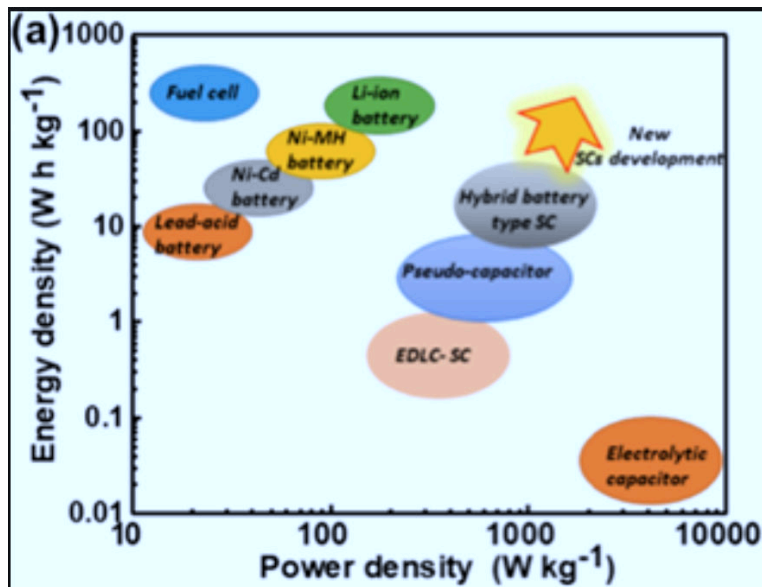
Electrical skin

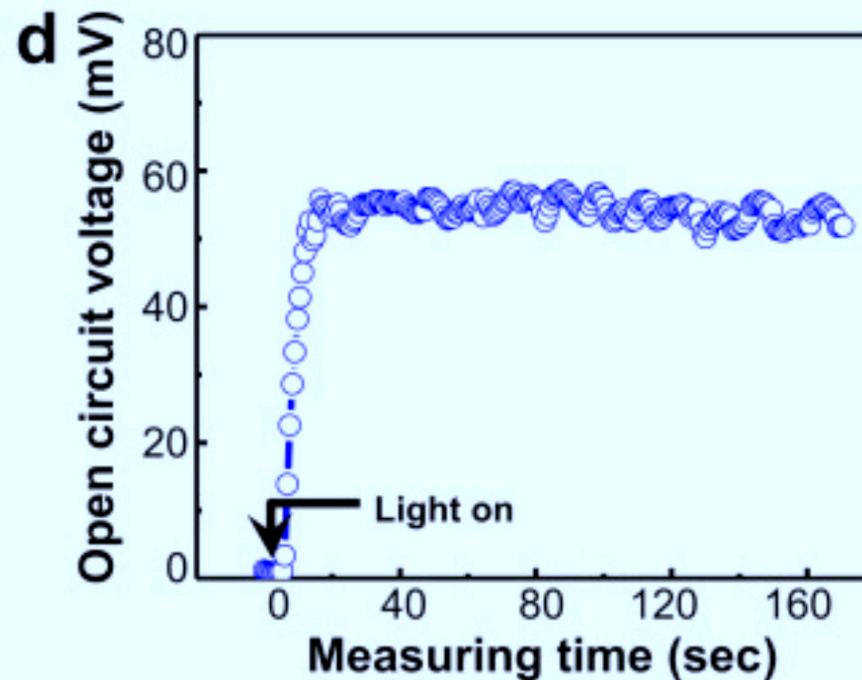
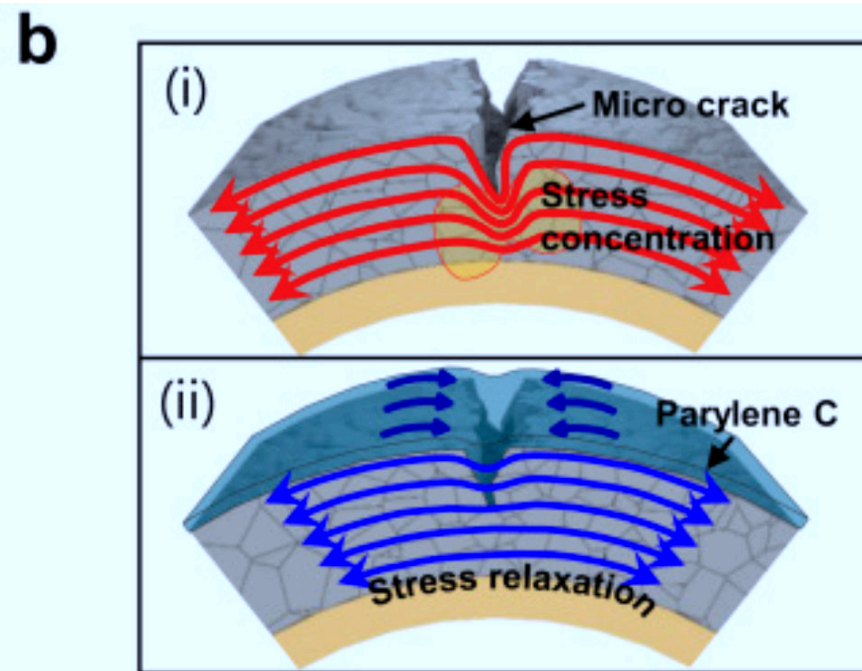
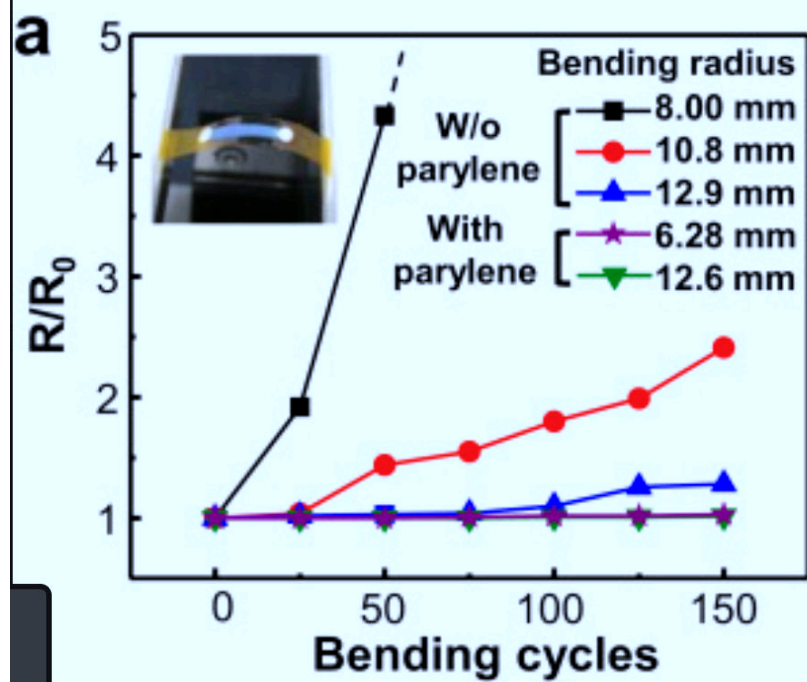


Wearable bioelectronics

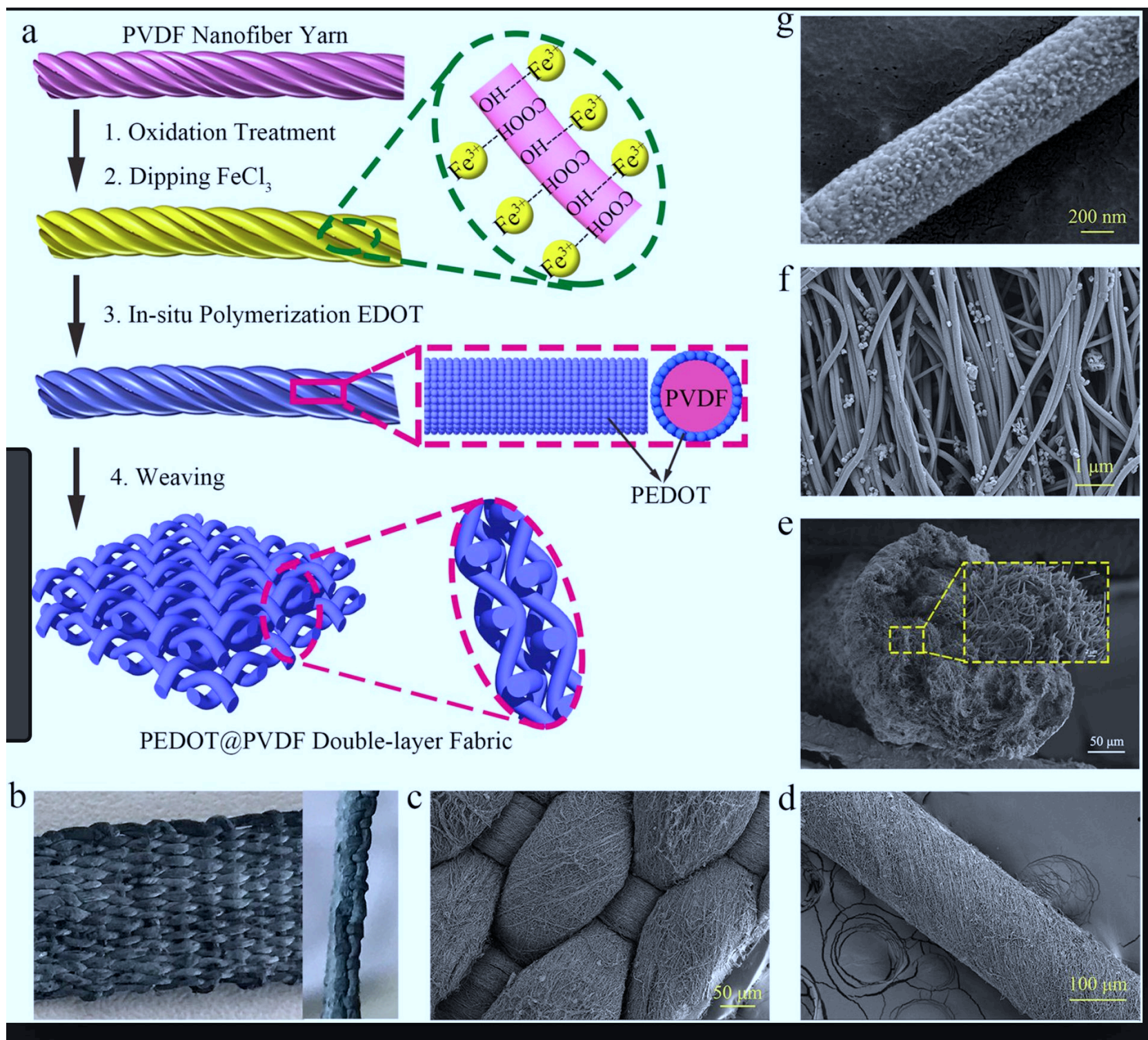


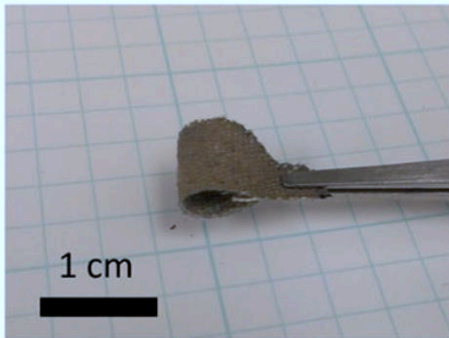
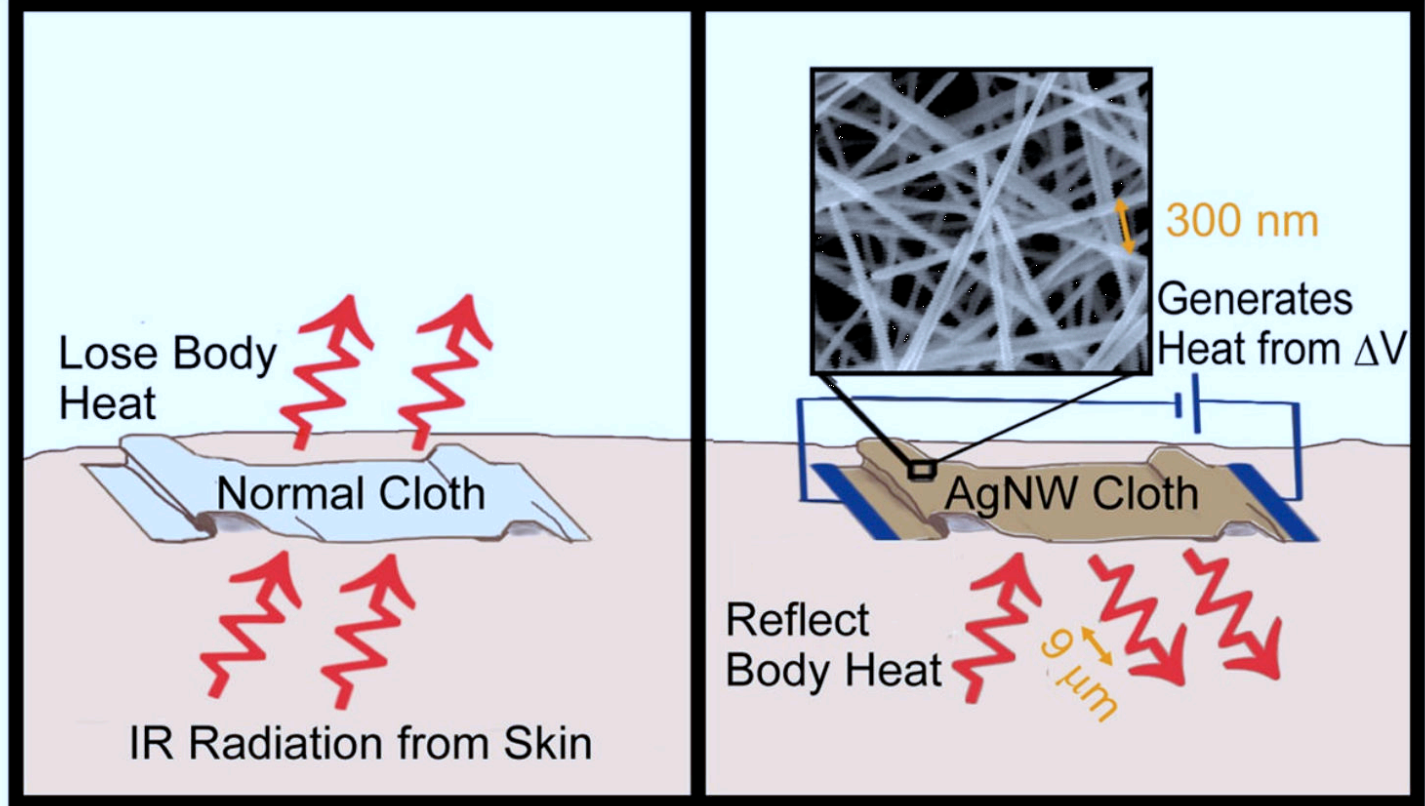
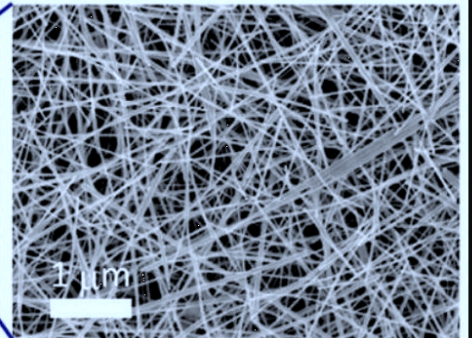
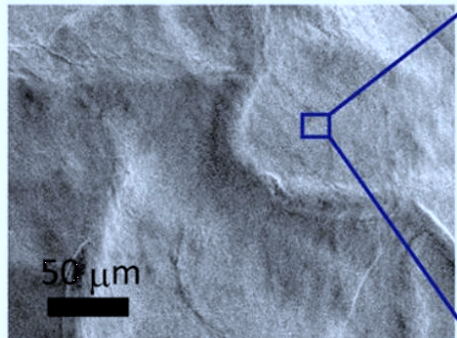
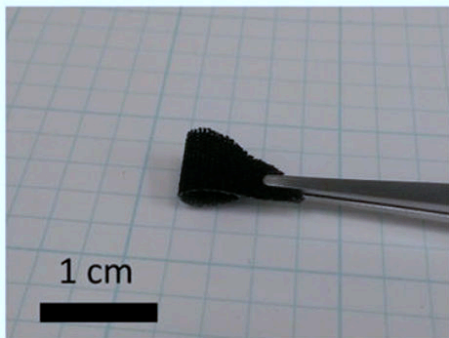
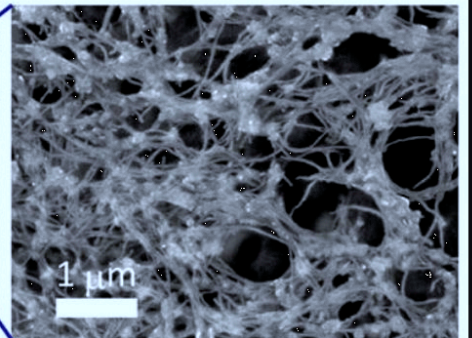
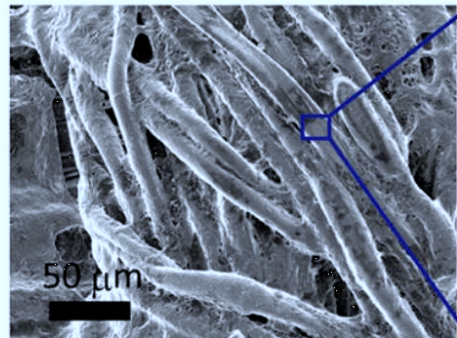


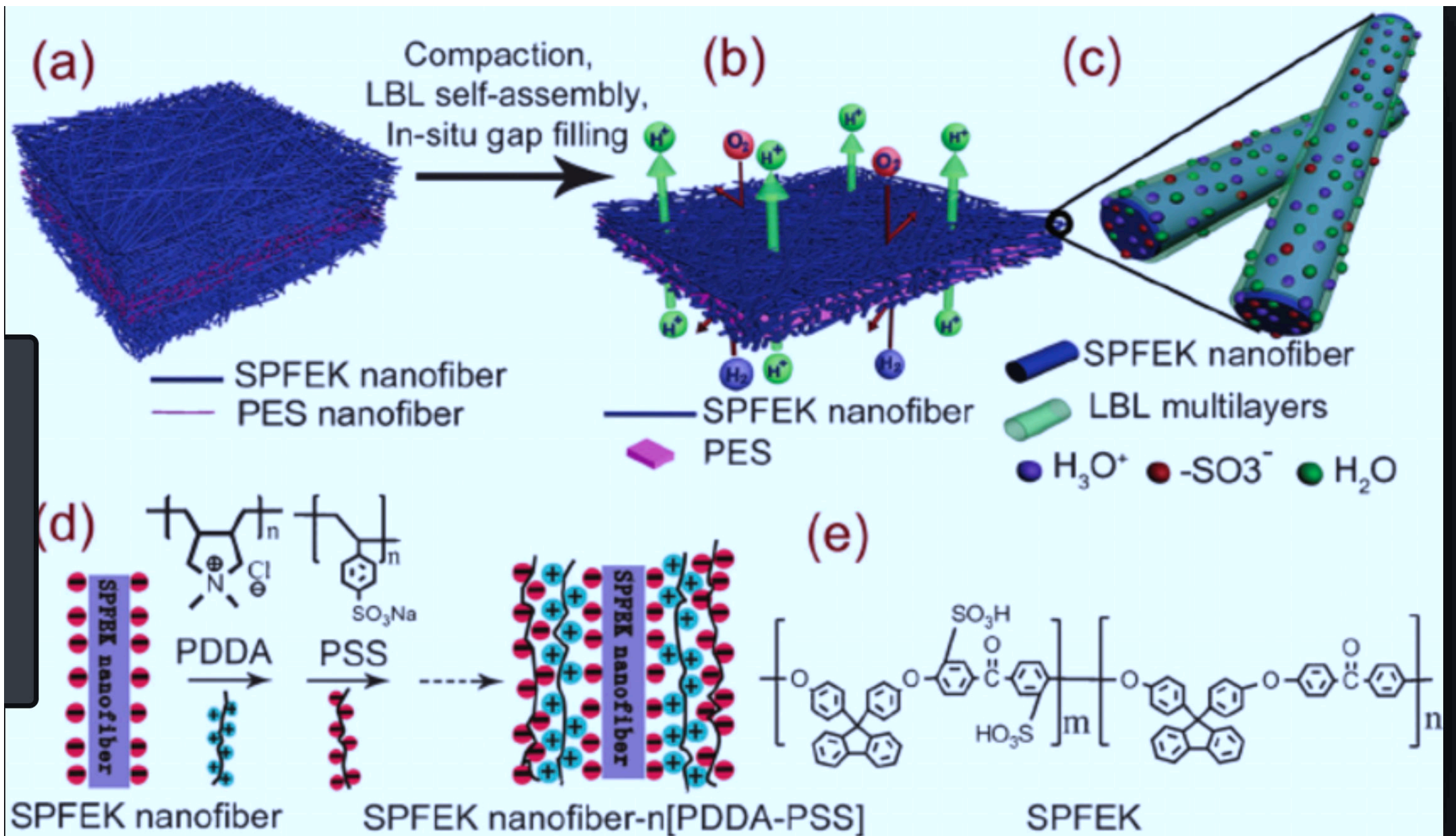




BODY HEAT CONVERSION TO ELECTRICITY



a**d****c****e**



Wood



$\frac{1}{1000}$

Logging and
chipping

Wood chips



$\frac{1}{1000}$

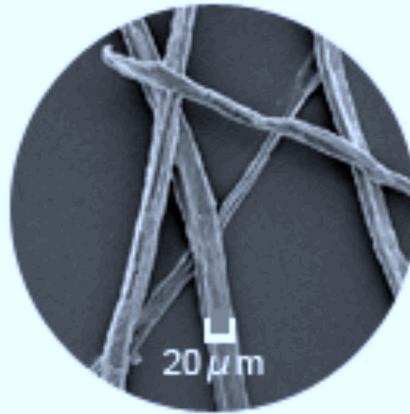
Pulping Obtaining
wood fibers

Wood fibers(pulp)

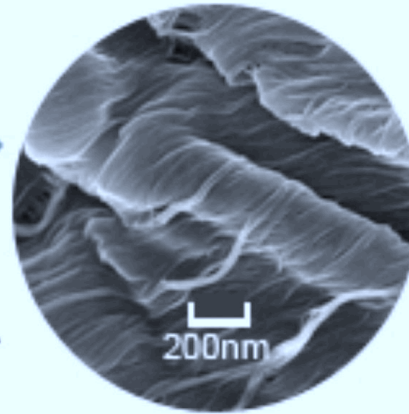


$\frac{1}{1000}$

Nanofibrillation
(miniaturization)
Fibrillation of a bundle
of wood fibers



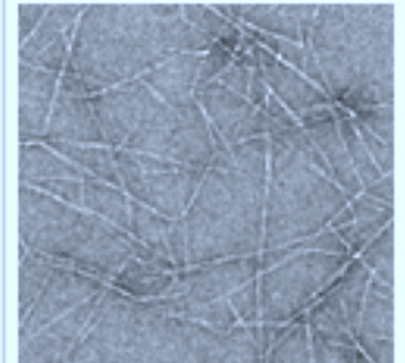
Magnify the
image of
the surface
of wood fiber

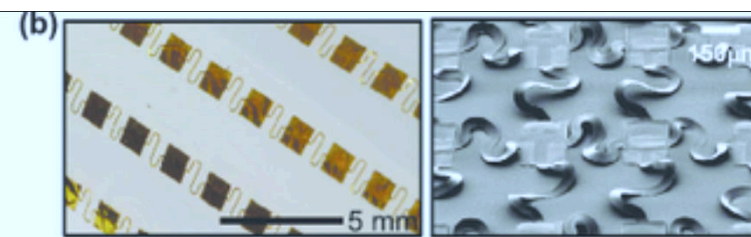
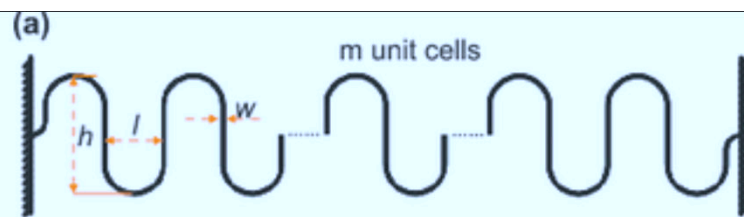


A wood fiber is
approximately 20 μ m wide.

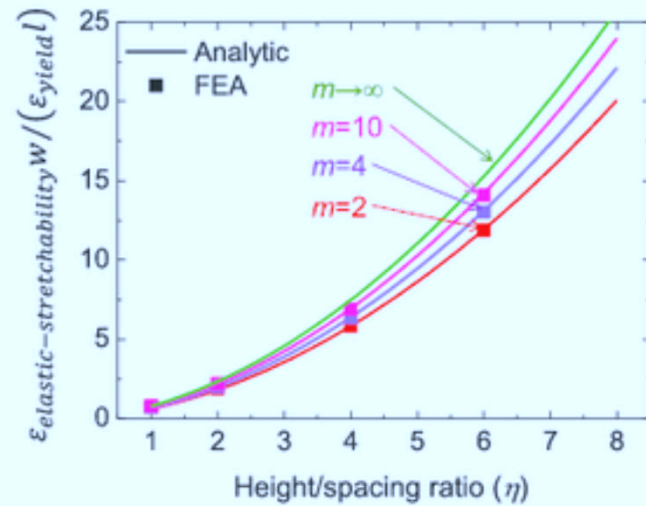
Magnify the surface of a wood
fiber and you will find that it
consists of a bundle of
countless nanofibers

Cellulose nanofibers

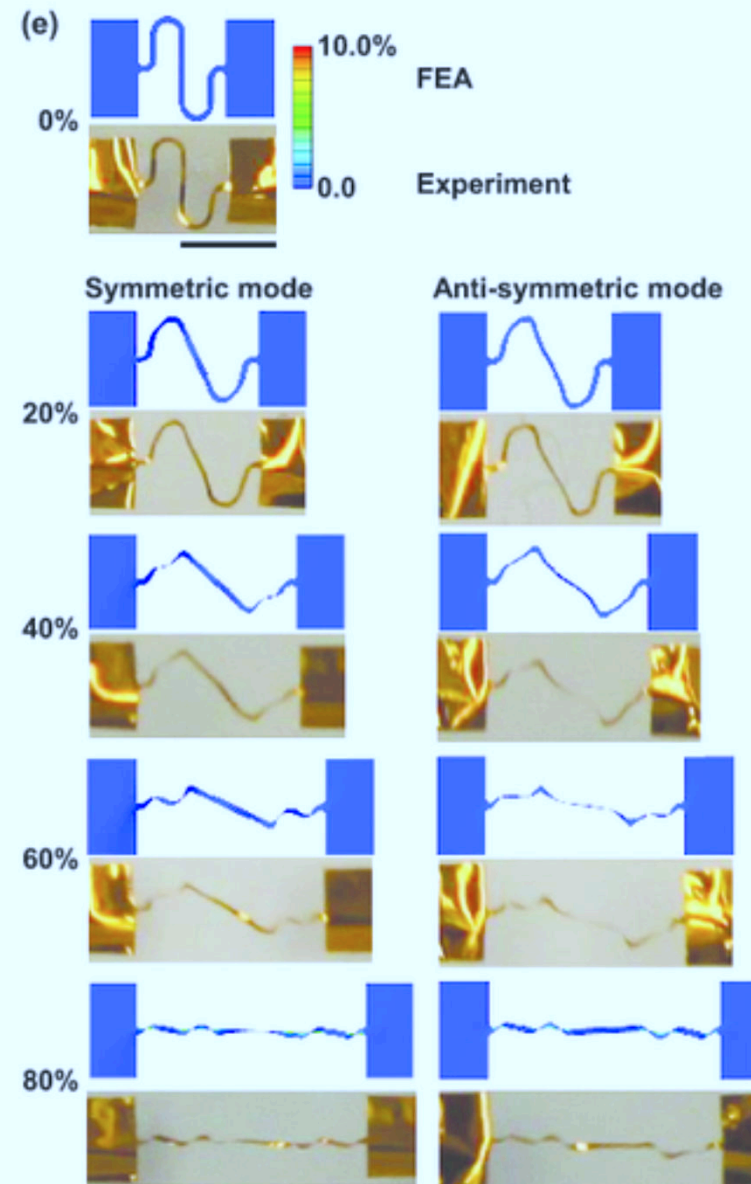
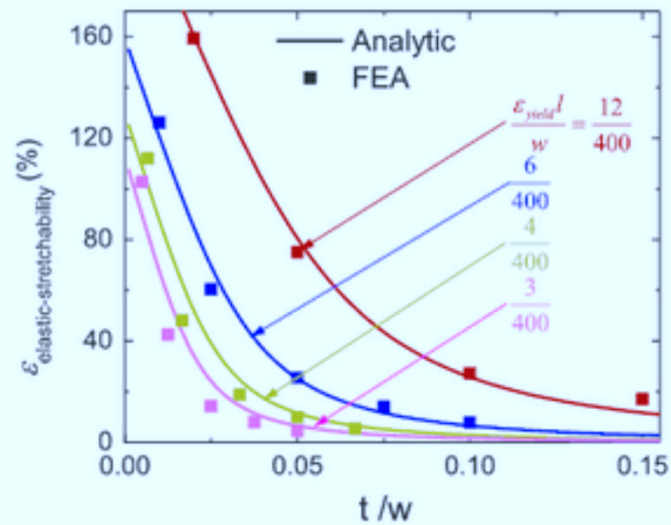




(c) Non-buckled serpentine under stretching

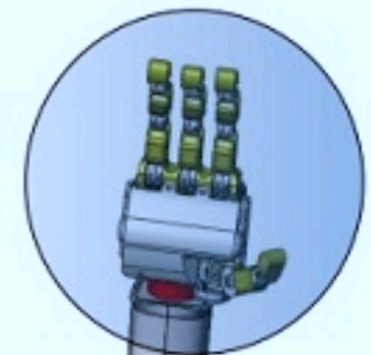


(d) Buckled serpentine under stretching

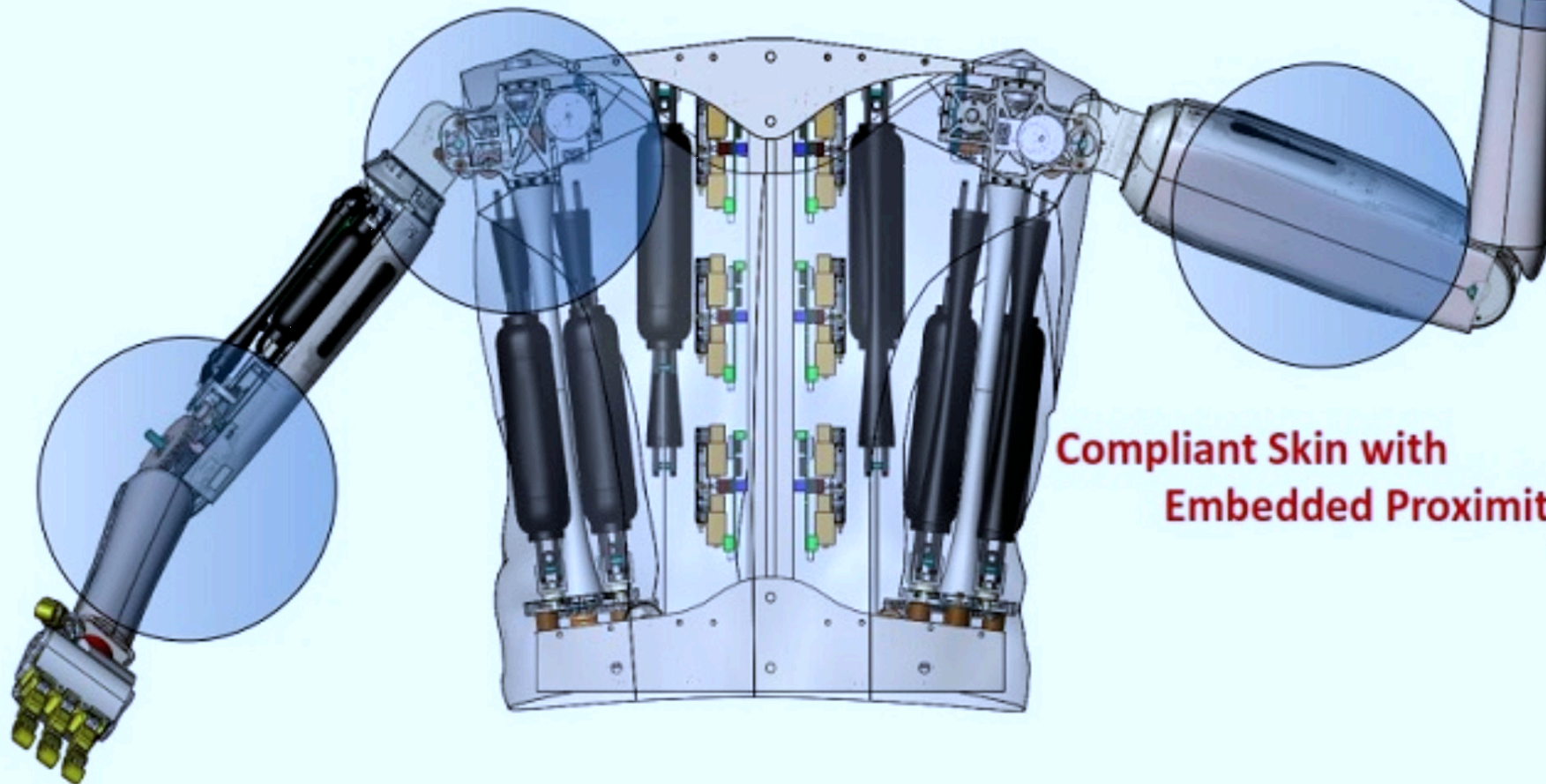


**3DOF Shoulder w/ Hybrid Actuation:
Artificial Pneumatic Muscles + Electrical Motor**

**Dexterous
Hands**



**Compliant Skin with
Embedded Proximity Sensors**

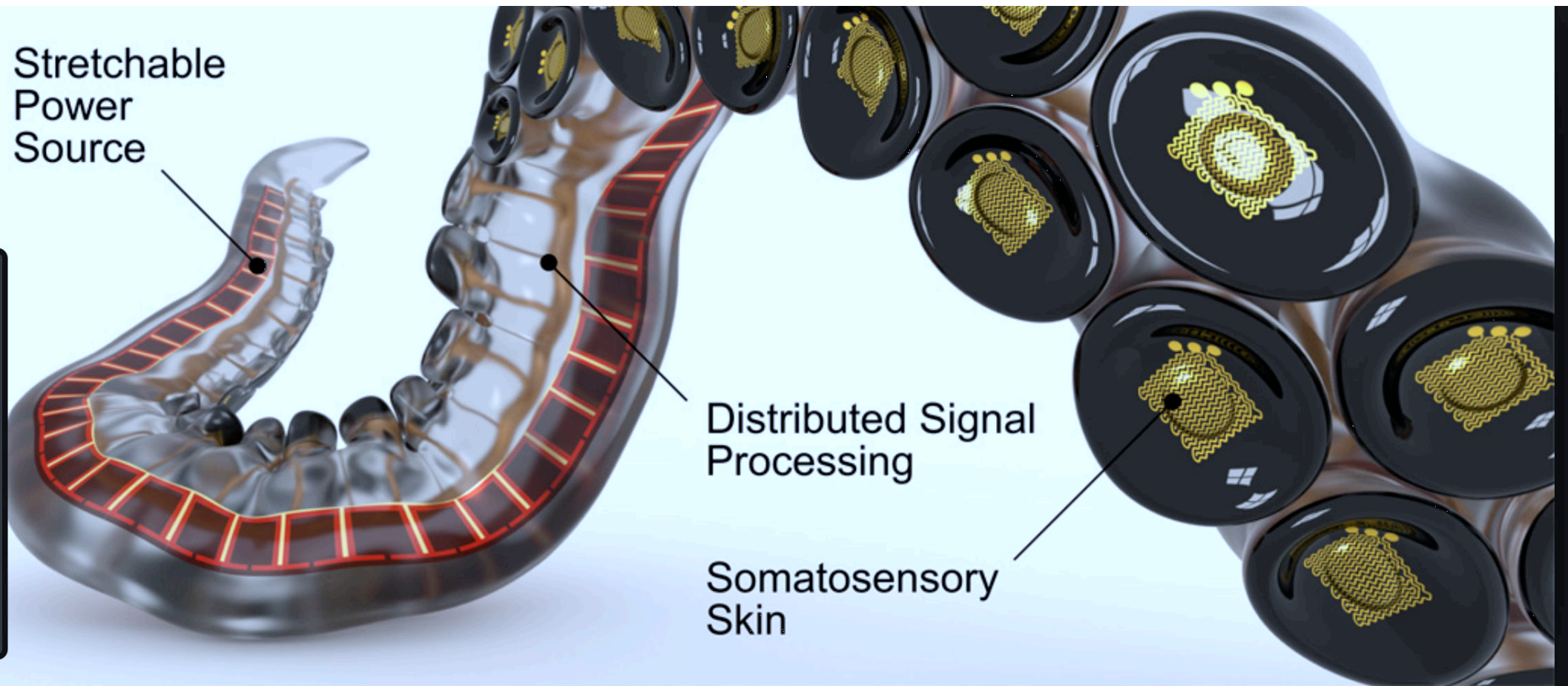


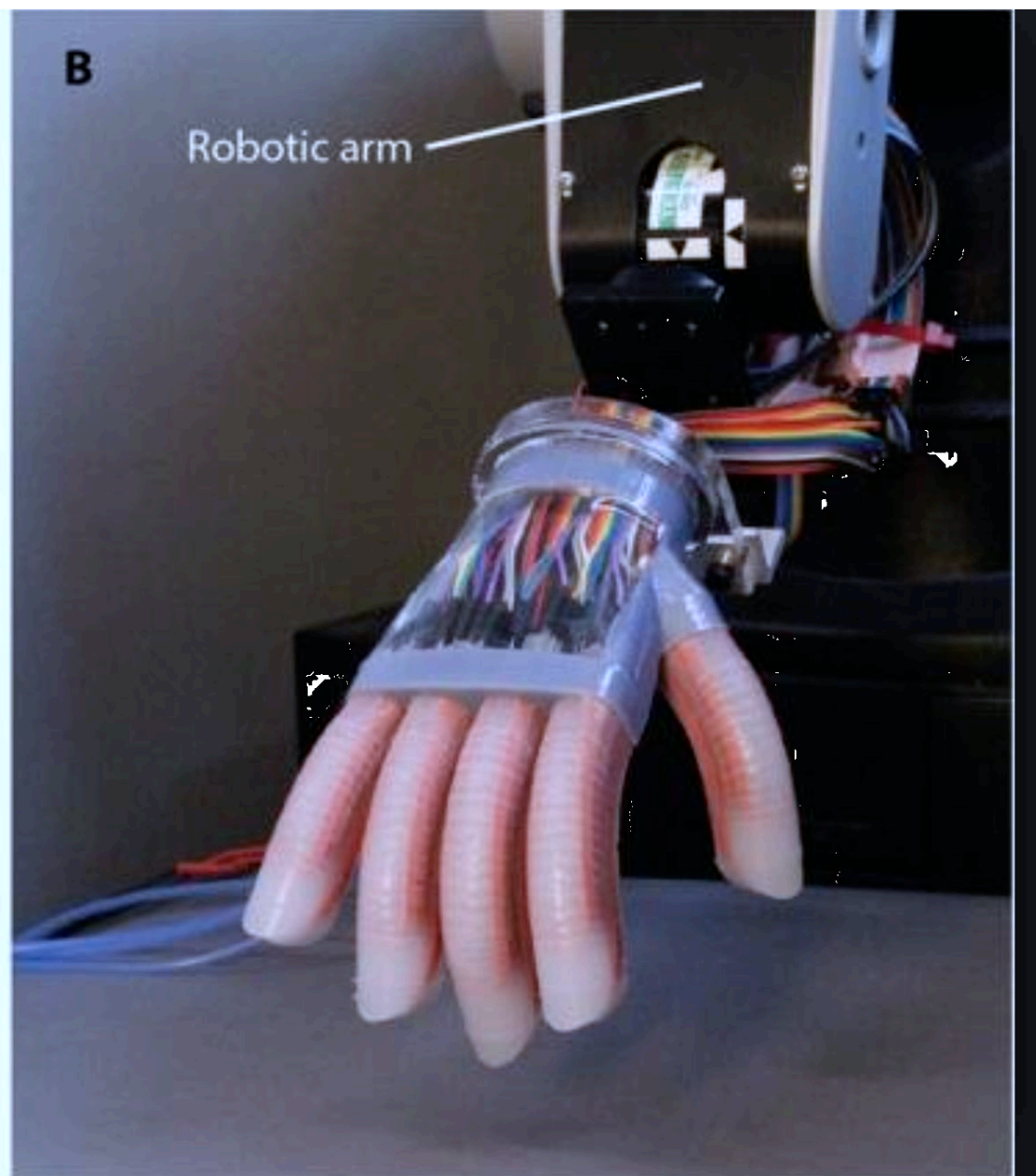
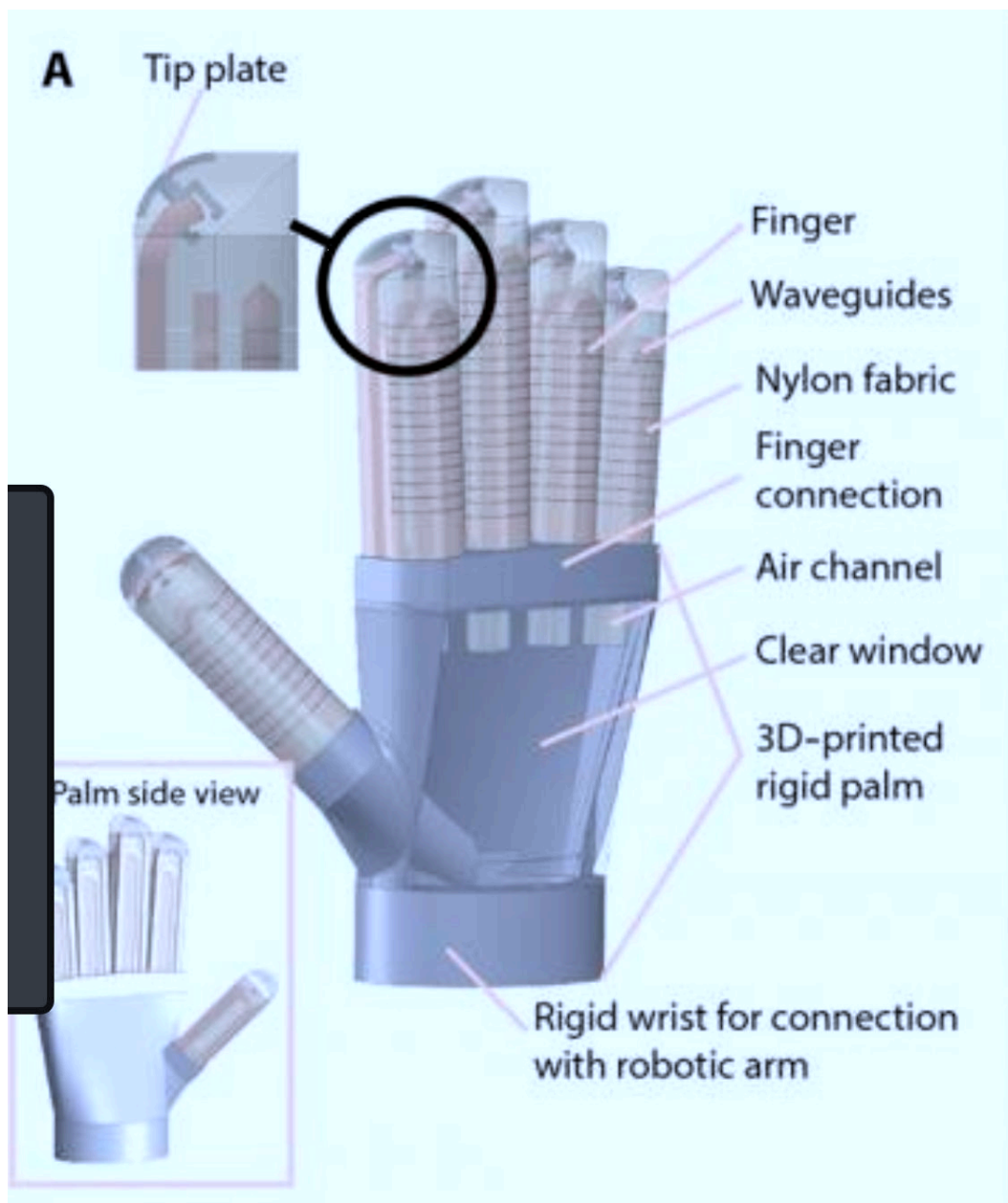
Bio-Inspired Fiber-Reinforced Robotic Arm

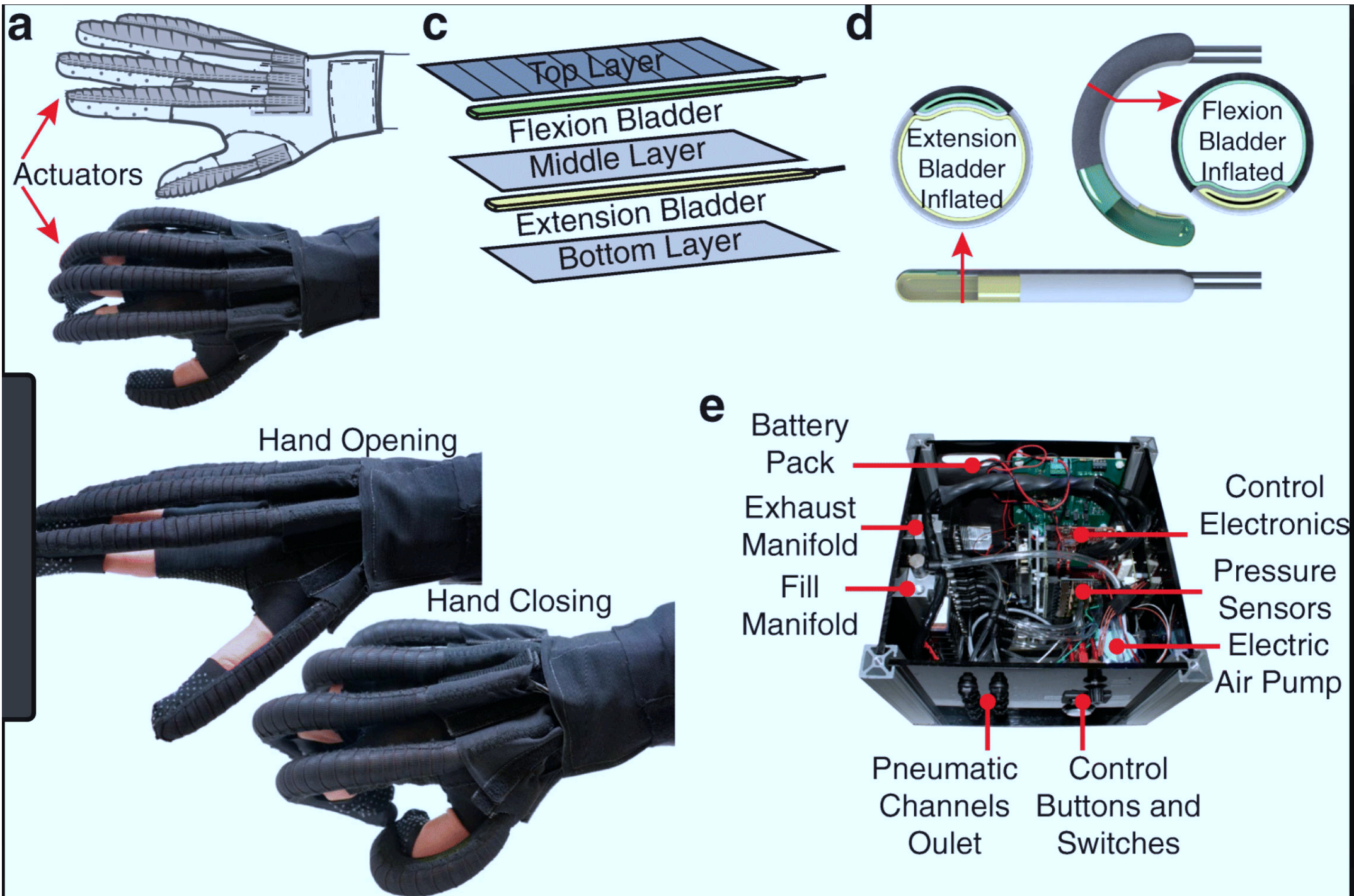
Stretchable
Power
Source

Distributed Signal
Processing

Somatosensory
Skin







Human mimetic humanoid "Kenshiro" (2012-)

Specification

Height: 160 [cm]

Weight: 51.9 [kg]

DOFs: 64

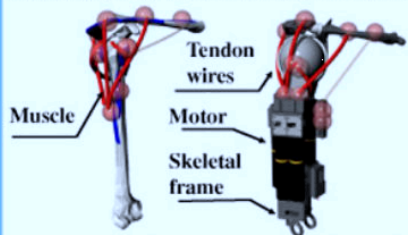
Muscle actuators: 87

Flexible multiple spine

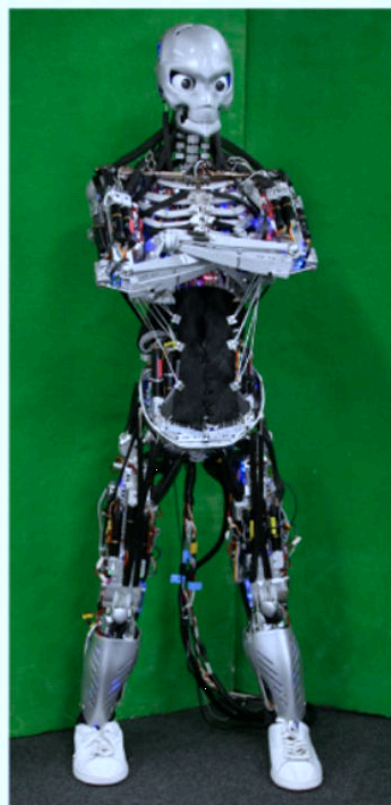


- Human-like S-curve structure
- Different spring unit for each vertebra

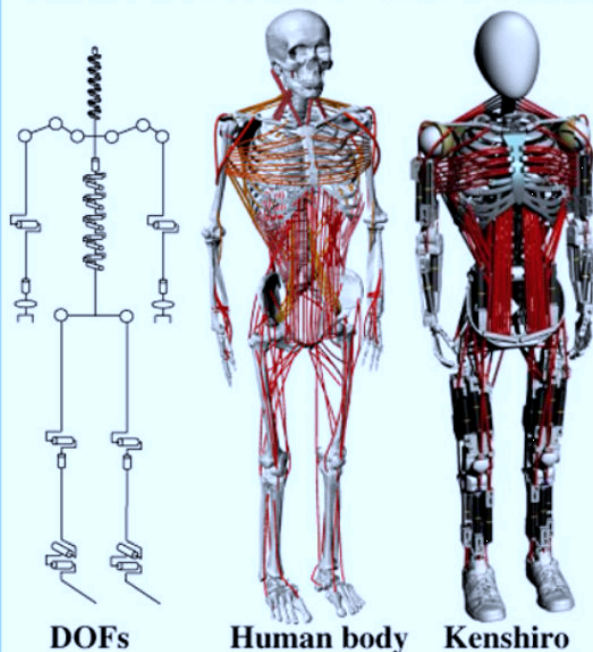
Adhesion of muscles and bones



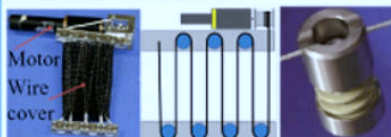
- Muscle adhesion prevents joint dislocation



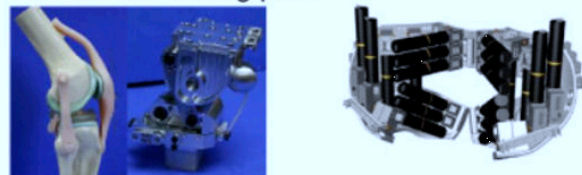
Musculoskeletal structure based on anatomy



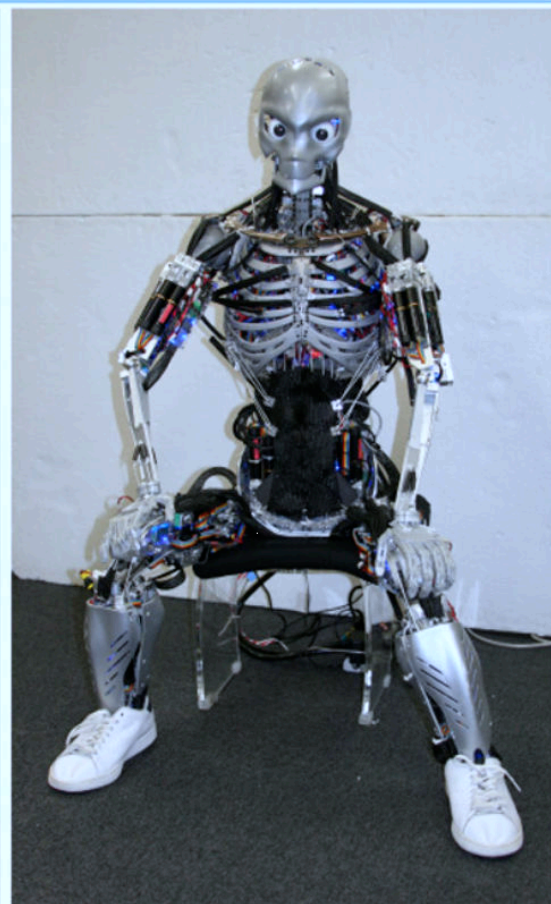
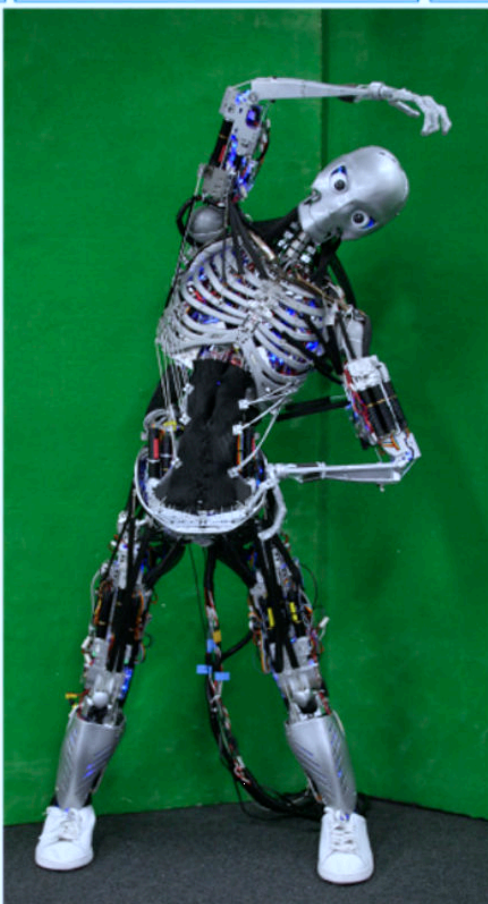
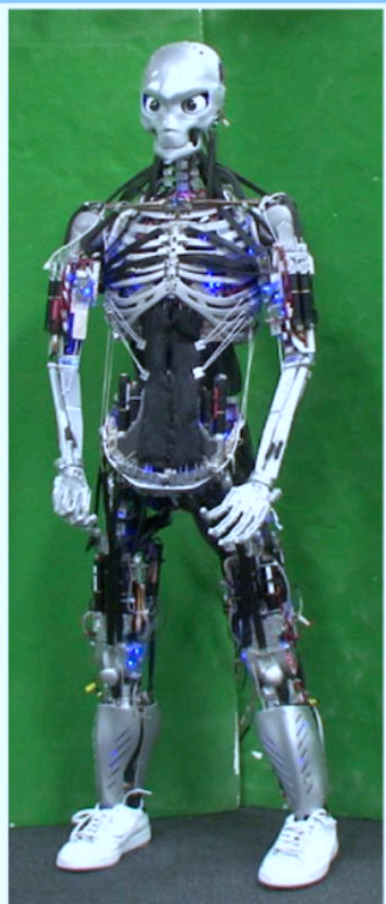
Actuation methods



Human mimetic leg part



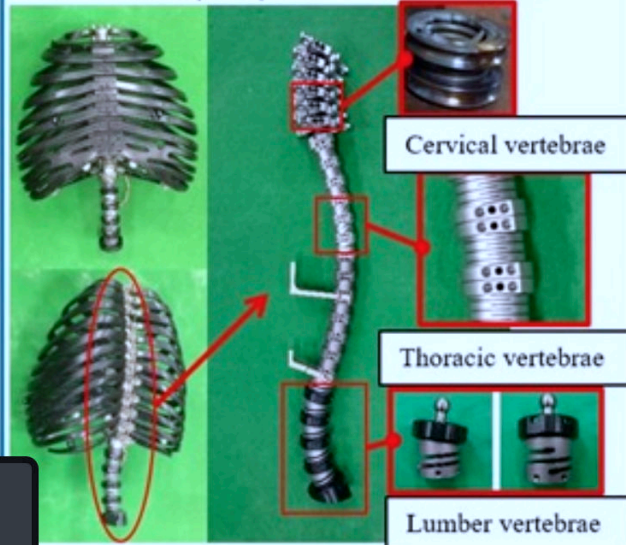
- Knee with screw-home mechanism
- Free formed pelvis with numerous muscle units



Musculoskeletal Humanoid "Kengoro" (2016-)

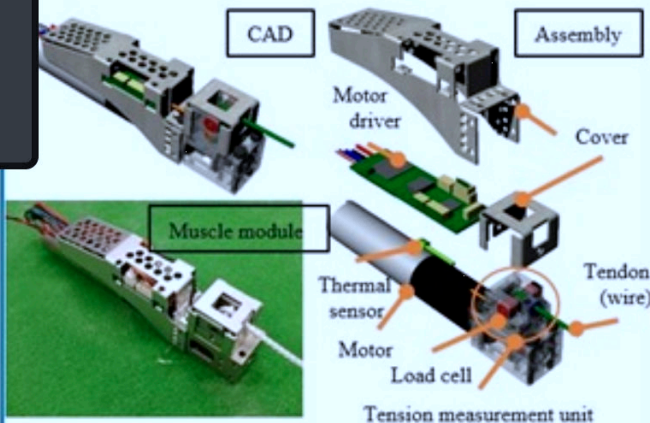
JSK

Flexible Multiple Spine



Human-like S-curve structure
Different spring unit for each vertebrae

Sensor-driver integrated muscle module

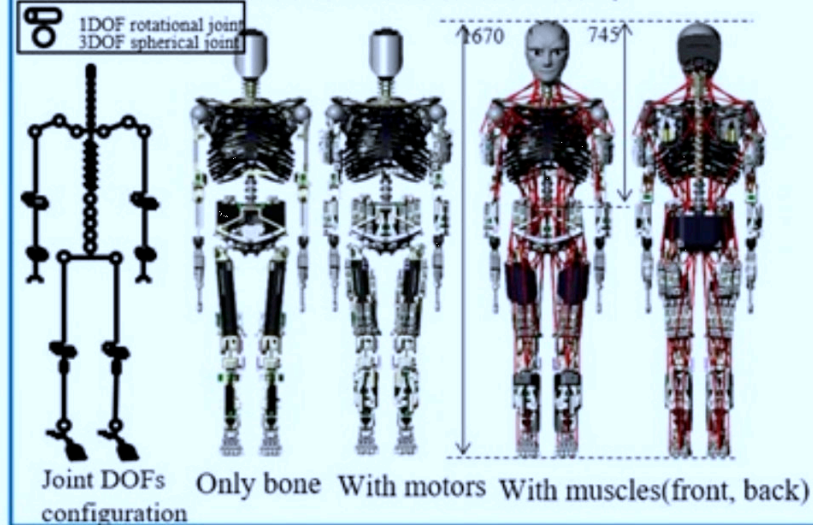


- Flexible muscle control by tension

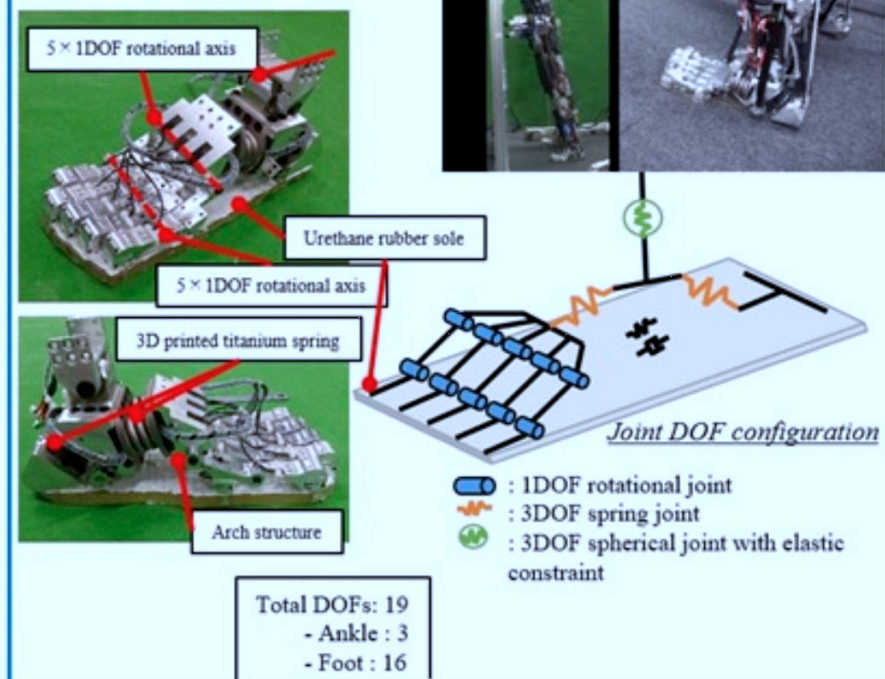


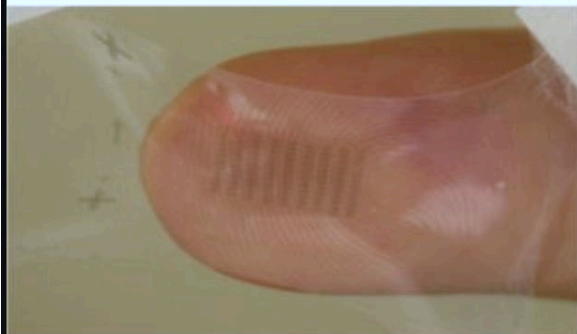
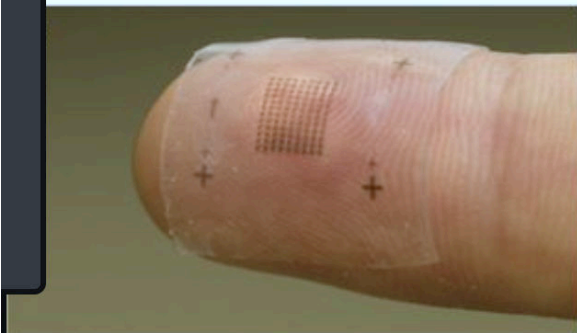
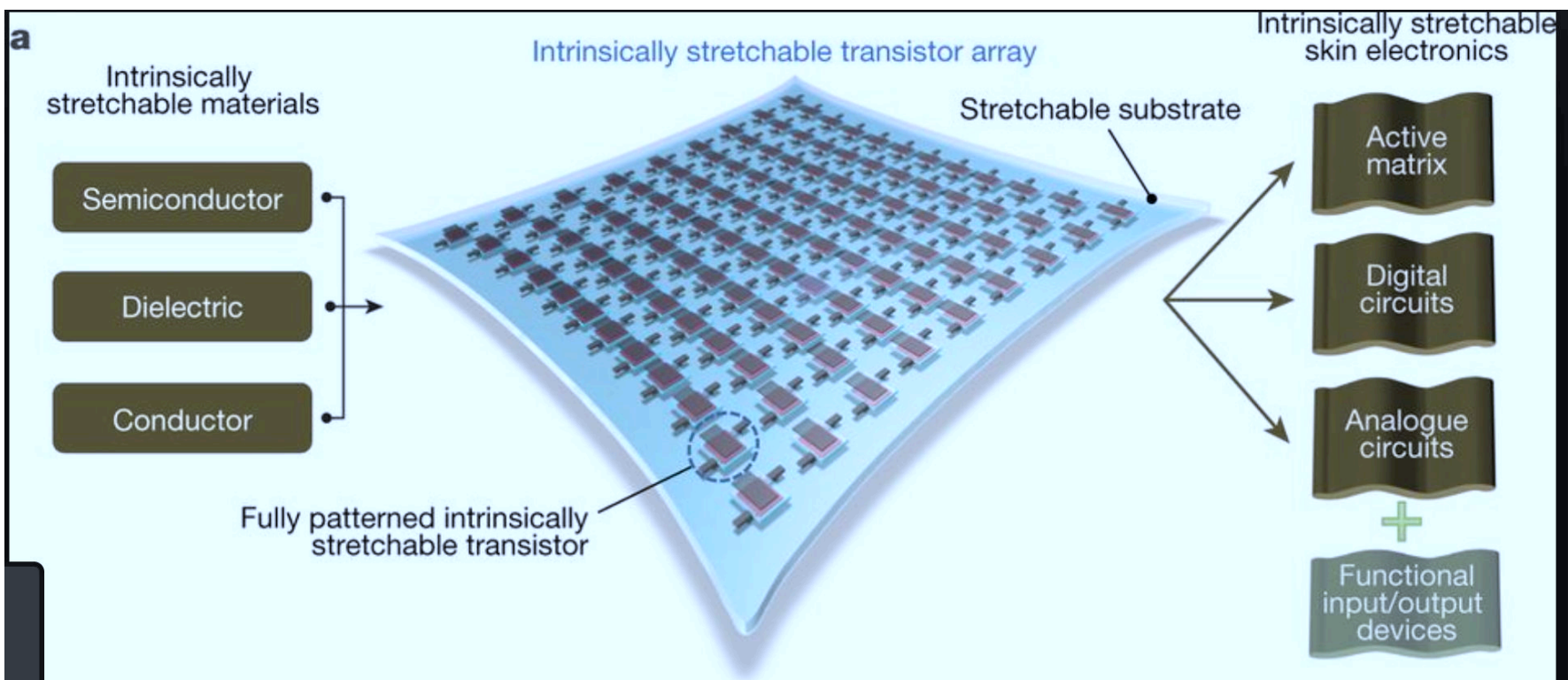
Height: 167[cm]
Weight: 56[kg]
DOFs: 114
Actuator: 106 Motors
(Under Development)

Musculoskeletal Structure based on Anatomy

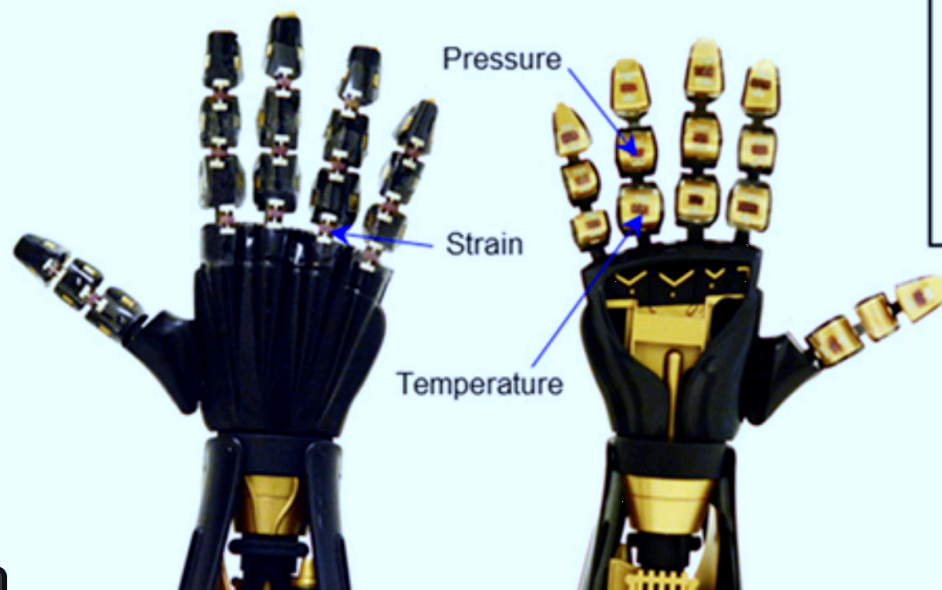


Human mimetic foot structure

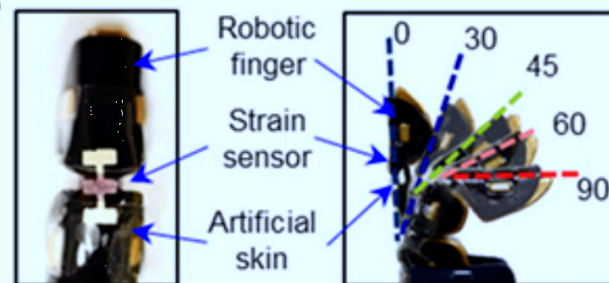




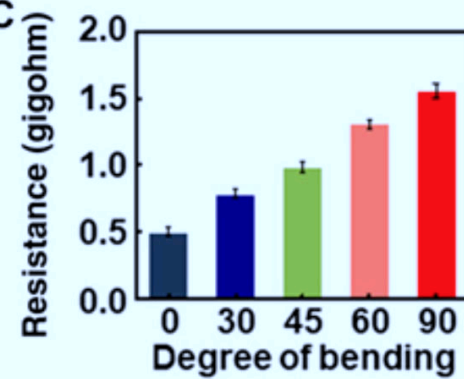
A



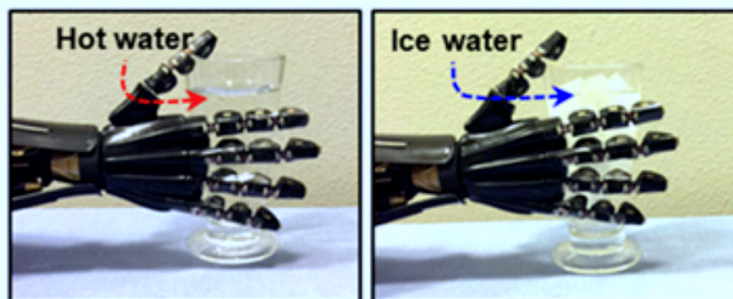
B



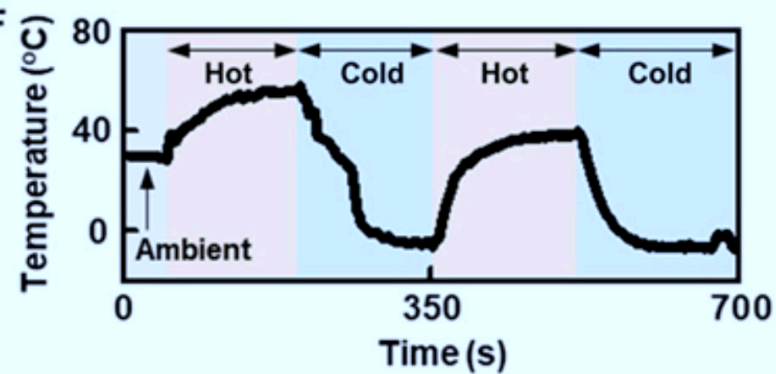
C

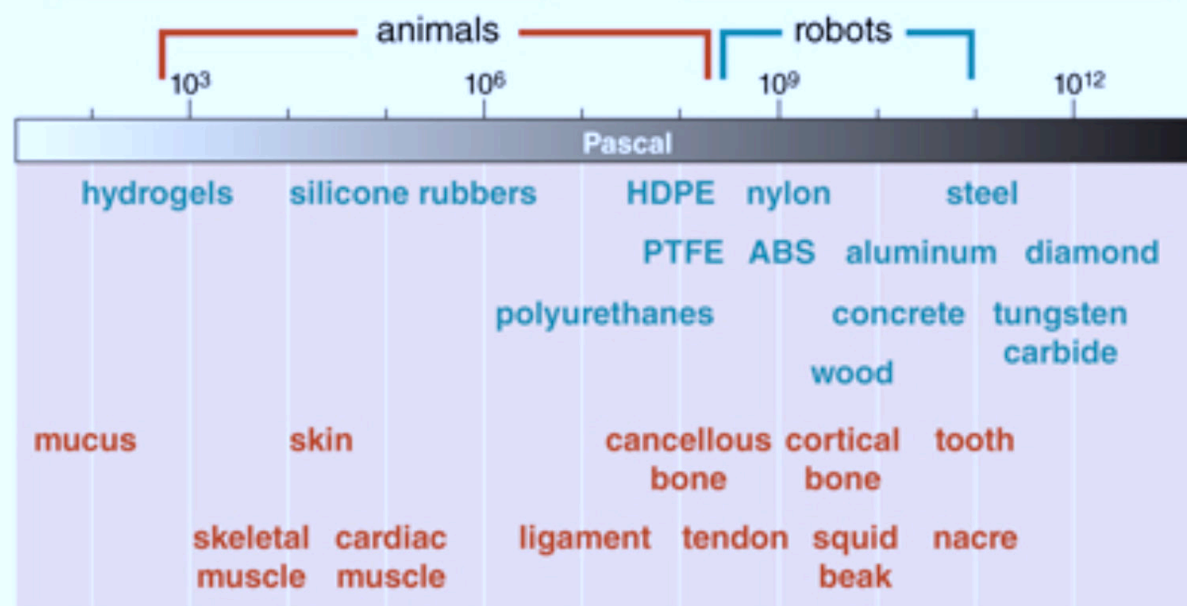


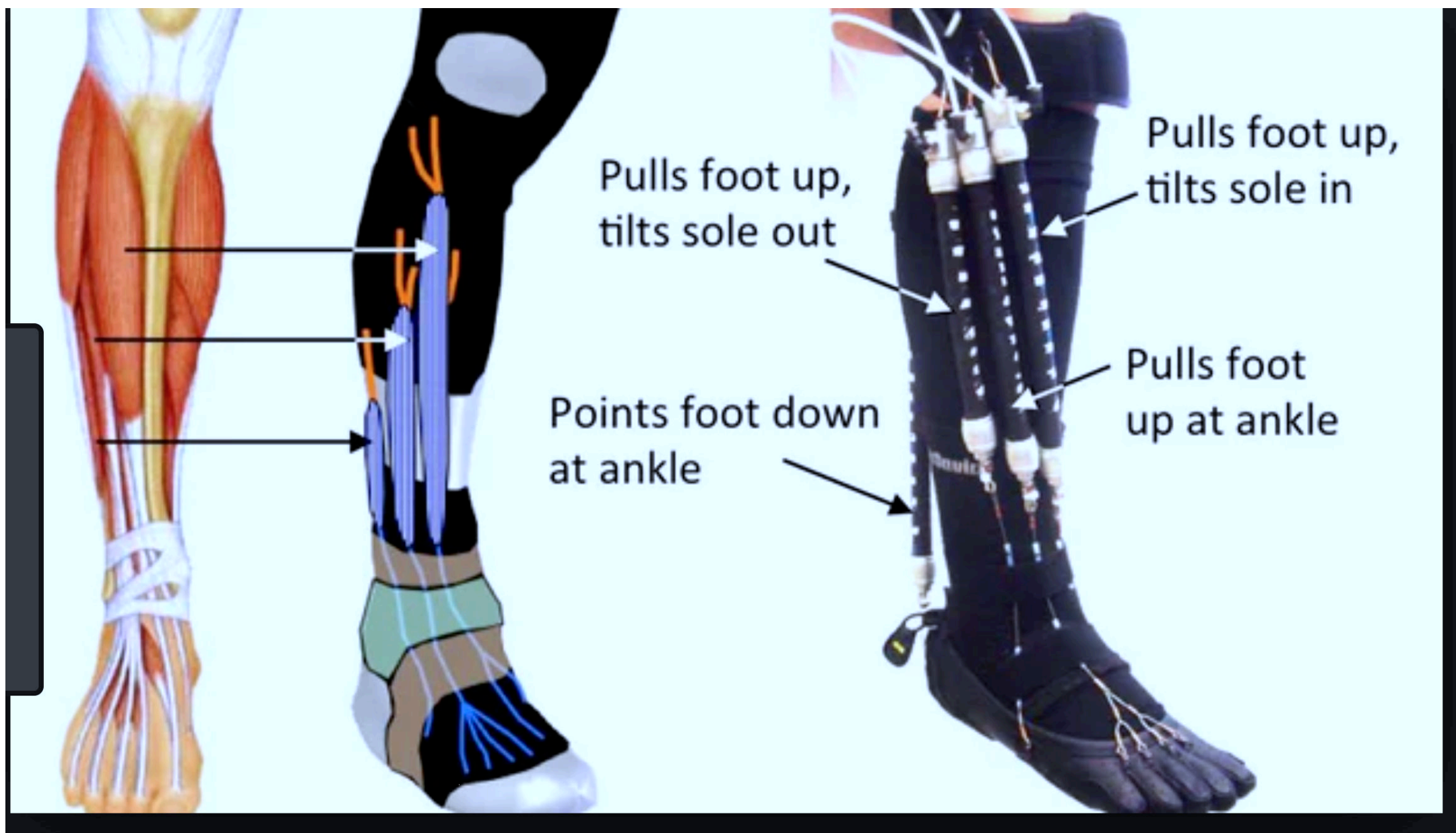
E



F







**Biomimetic
robotic hand**

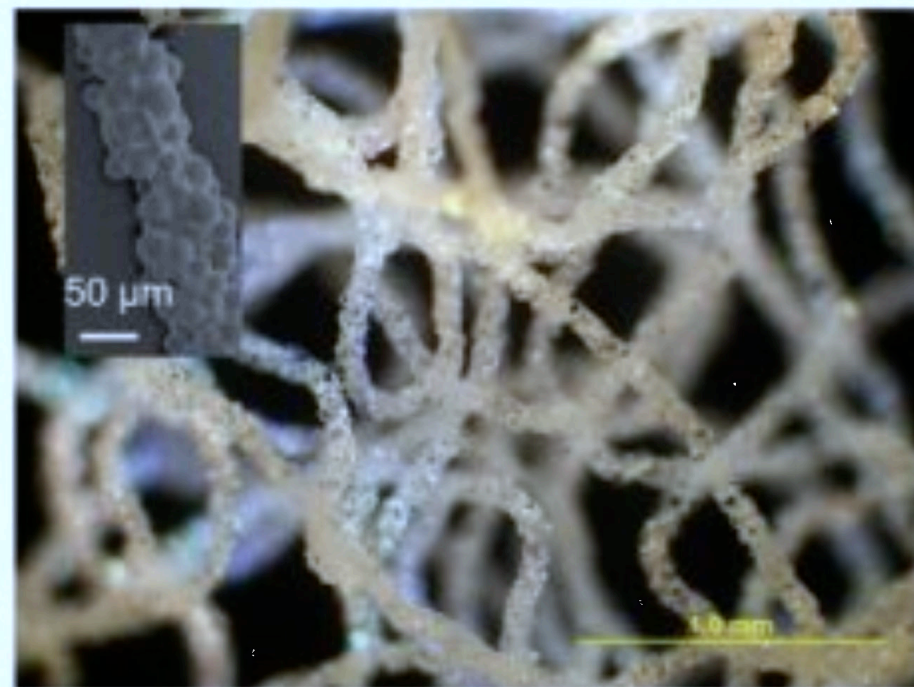
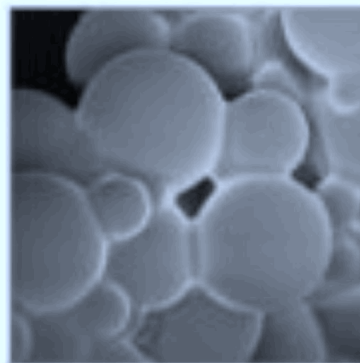
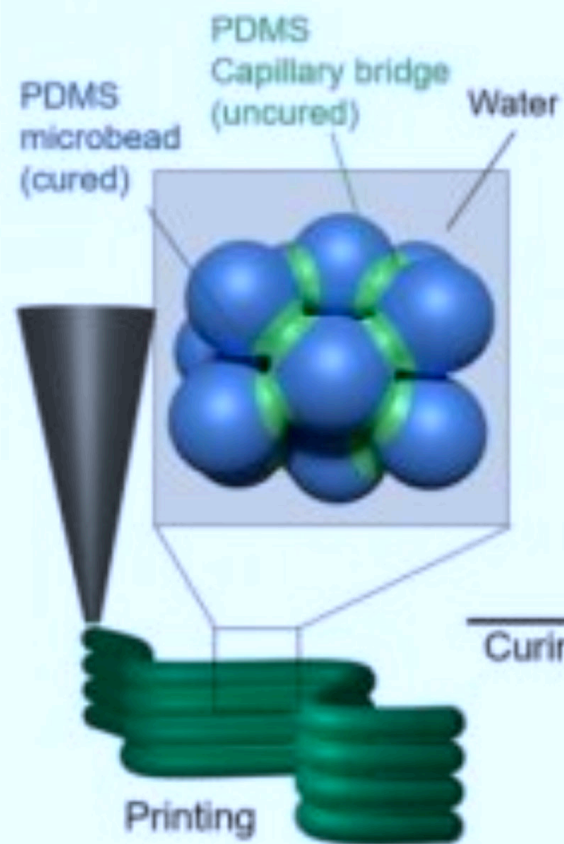
**10 Dynamixel
servos**



**Extensor
hood**

**Intrinsic
muscles**









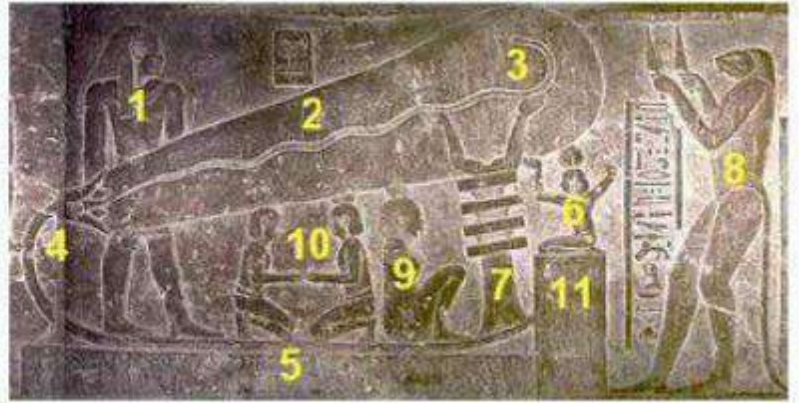






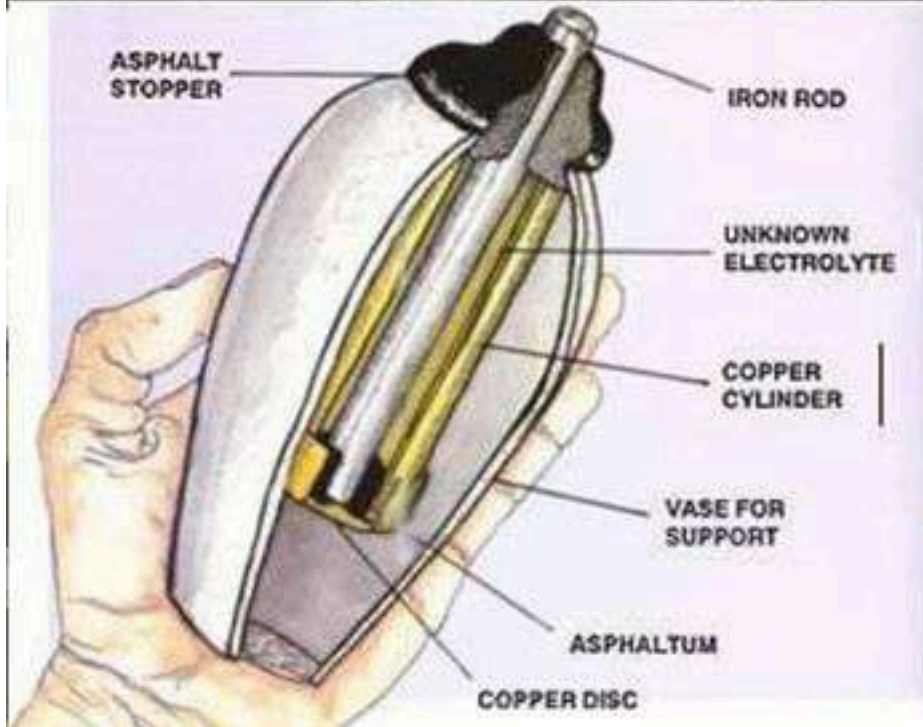


1. Priest
2. ionized fumes
3. electric discharge (snake)
4. Lamp socket (Lotos)
5. Cable (Lotos stem)
6. Air god
7. Isolator (Djed-Pillar)
8. Light bringer Thot with knives
9. Symbol for "current"
10. Inverse polarity (Haarpolarität +)
11. Energy storage (electrostatic Generator?)



<http://www.facebook.com/foKruhWObili>

















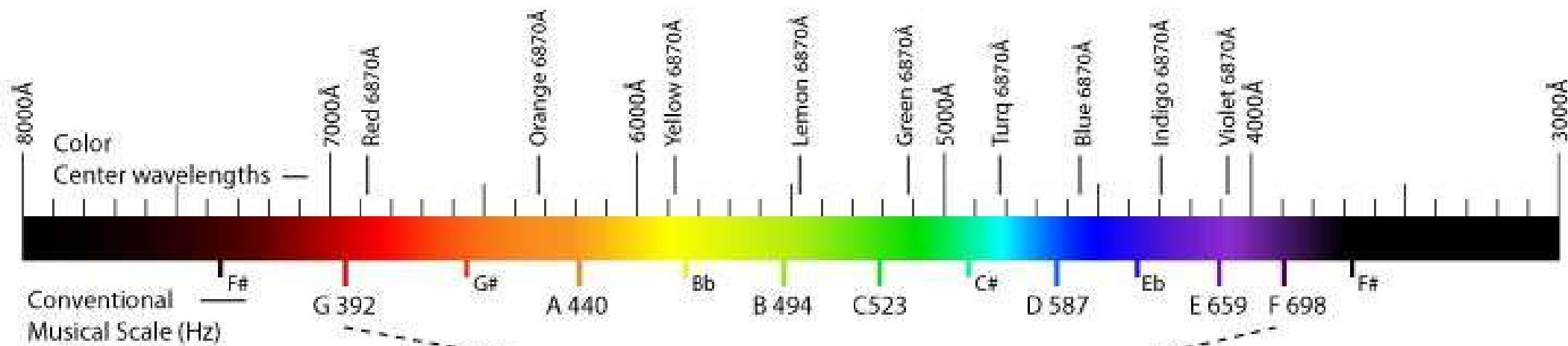




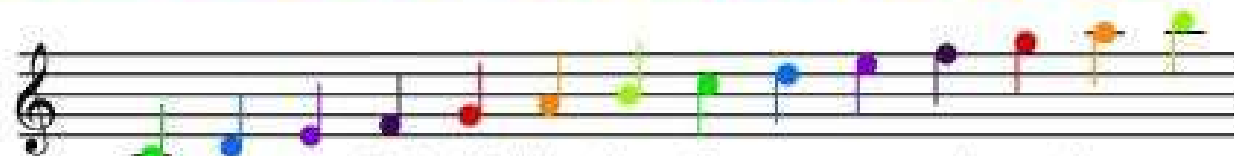
Note	Hertz Lucy Tuned	Equivalent Wavelength*	Color
A	440	619.69	Orange-Yellow
A#	457.75	595.66	Yellow-Orange
Bb	472.27	577.34	Yellow
B	491.32	554.95	Yellow-Green
Cb	506.91	537.89	Green-Yellow
B#	511.13	533.44	Green
C	527.35	517.03	Green
C#	548.62	496.99	Green-Blue
Db	566.03	481.70	Blue-Green
D	588.86	463.03	Blue
D#	612.61	445.08	Blue-Violet
Eb	632.05	431.39	Violet-Blue
E	657.54	414.67	Violet
Fb	678.41	401.91	Ultra Violet
E#	684.06	398.59	Invisible Violet
F	705.77	772.66	Invisible Red
F#	734.23	742.71	Infra Red
Gb	757.53	719.86	Red
G	788.08	691.96	Red-Orange
G#	819.87	665.13	Orange-Red
Ab	845.89	644.67	Orange

* Equivalent Wavelength = Angstroms / 10 Nanometers

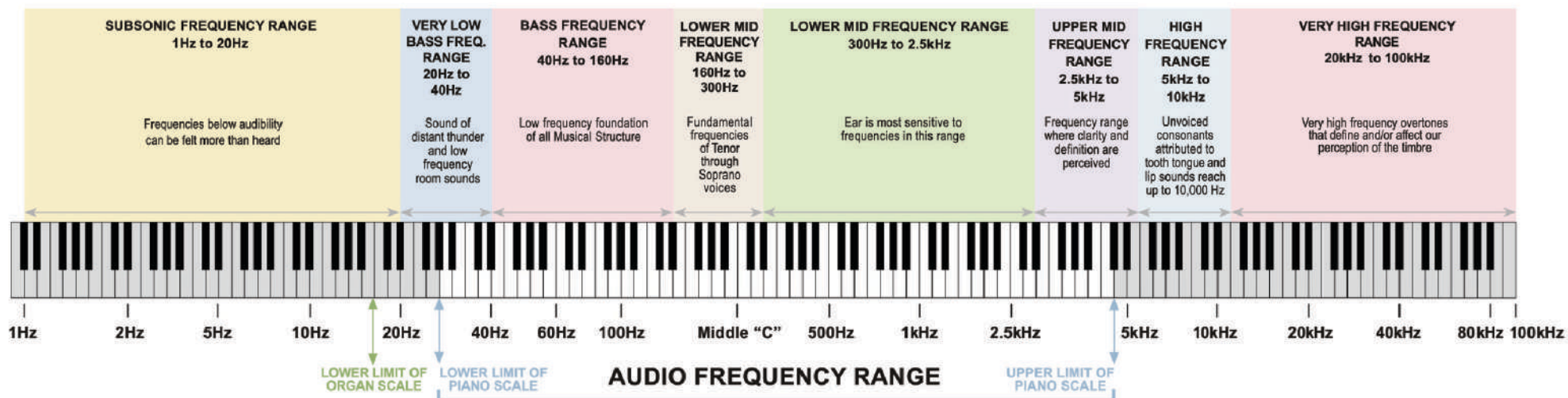
Musical Notes-Color Correspondences in the Visible Spectrum of Light



Guitar Fret Board (Standard Tuning)



©2010 Nick Anthony Fiorenza - www.lunarpfanner.com



THE COAST OF ANTARCTICA, AND THE ANTARCTIC SHELF.
THIS IS THE ICE WALL, THE CONTAINER OF THE EARTH,
A GIANT LAND MASS SURROUNDING THE EARTH.
WATER ALWAYS LEVELS OUT AND ALWAYS TAKES
THE SHAPE OF ITS CONTAINER. THERE IS NO EDGE.

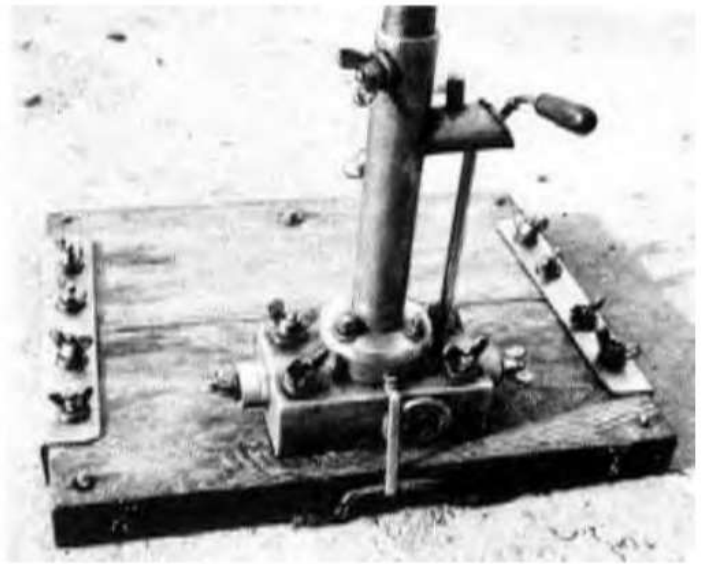
IF SOMEONE ASKS FOR A
PICTURE OF THE ICE WALL



#MOONHOAX
#SPACEHOAX
#GRAVITYHOAX
#RELATIVITYHOAX
#TRUSTFLATWATER
#FLATEARTH

SHOW THEM THIS PICTURE

FISH TANKS, TUBS, POOLS & LAKES OF WATER ARE FLAT AND LEVEL.





Hovering Elytra - [Grebennikov Video](#) Replication Series

Non possiamo garantire che i filmati siano reali e non contraffatti. La qualità dei filmati pervenuti è pessima e i filmati sono stati ripresi con un cellulare.



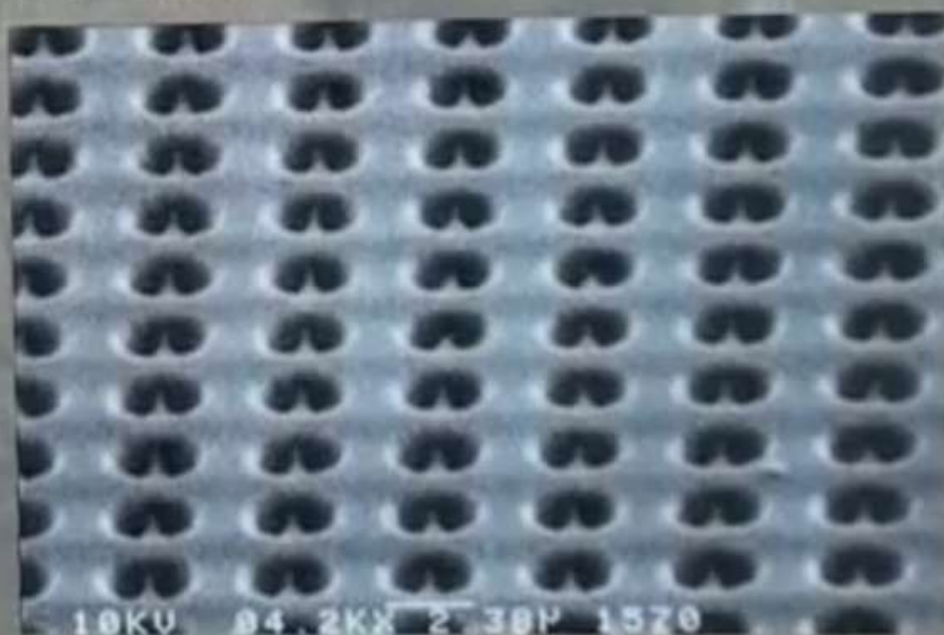
Sembra sia stato identificato un insetto le cui elitre manifestano gli stessi fenomeni riscontrati da Grebennikov.

Nelle foto è possibile vedere degli ingrandimenti della superficie delle elitre.

In un futuro report prenderemo in esame quanto affermato da un presunto testimone (aveva 7 anni quando assistette ad una dimostrazione dello stesso VSG), riportando lo schema costruttivo descritto da questa persona.

L'insetto sarebbe uno scarabeo d'acqua, forse un esemplare adulto di Dytisc.

Chi ha realizzato i video descrive il comportamento di questi insetti, che balzano fuori dall'acqua e prima di ricadere dentro prendono il volo.



Video Elytre 1





Non possiamo garantire che i filmati siano reali e non contraffatti. La qualità dei file mp4 pervenuti è pessima, probabilmente sono stati ripresi con un cellulare.



Sembra sia stato identificato un insetto le cui elitre manifestano gli stessi fenomeni riscontrati da Grebennikov.

Nelle foto è possibile vedere degli ingrandimenti della superficie delle elitre.

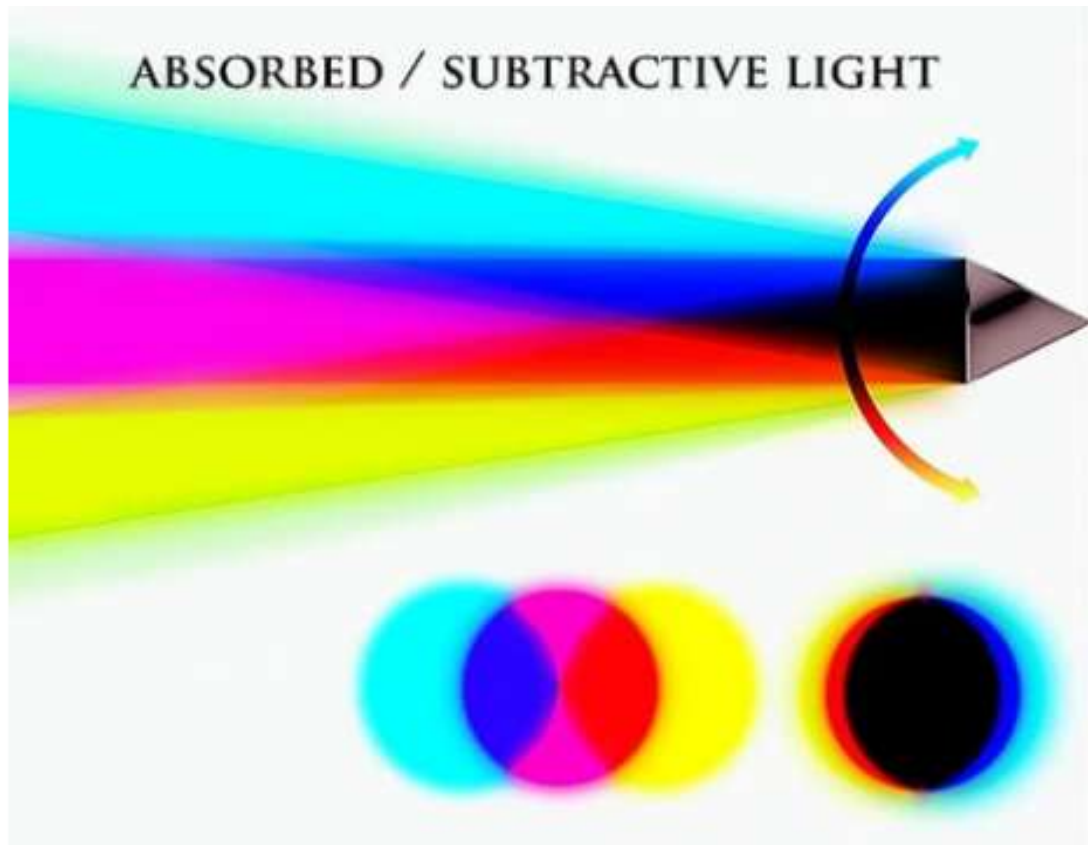
In un futuro report prenderemo in esame quanto affermato da un presunto testimone (aveva 7 anni quando assistette ad una dimostrazione dello stesso VSG), riportando lo schema costruttivo descritto da questa persona.

L'insetto sarebbe uno scarabeo d'acqua, forse un esemplare adulto di Dytisc.

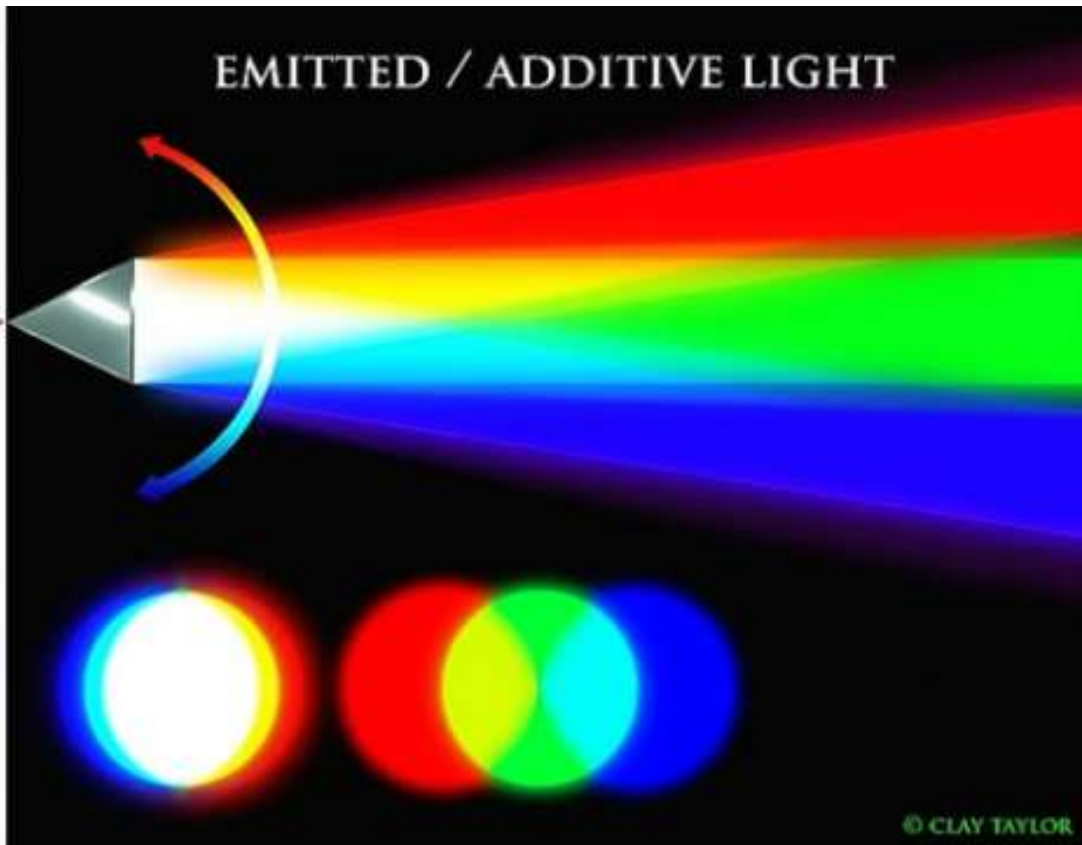
Chi ha realizzato i video descrive il comportamento di questi insetti, che balzano fuori dall'acqua e prima di ricadere dentro prendono il volo.



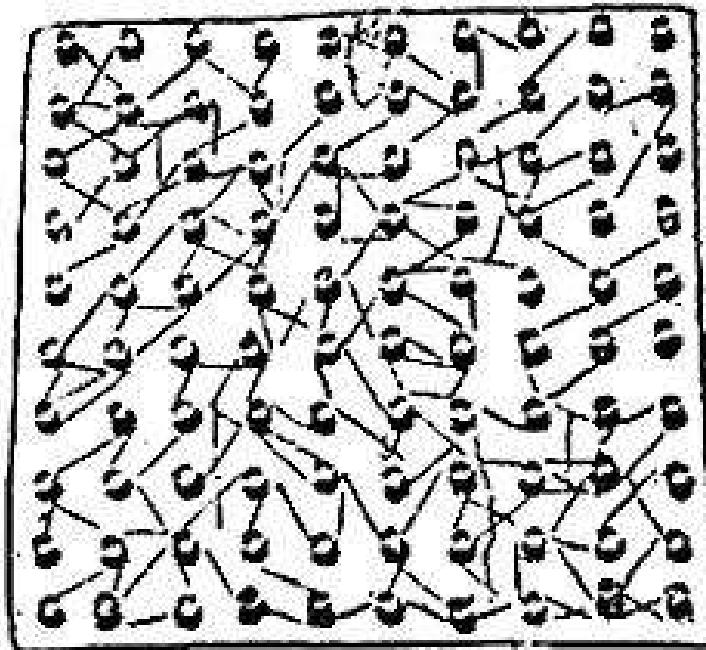
ABSORBED / SUBTRACTIVE LIGHT



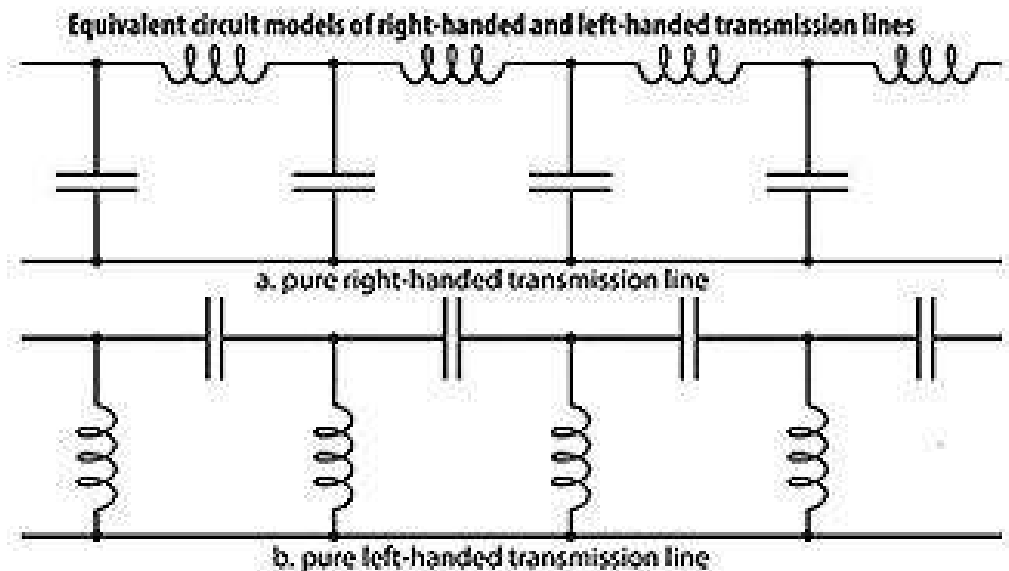
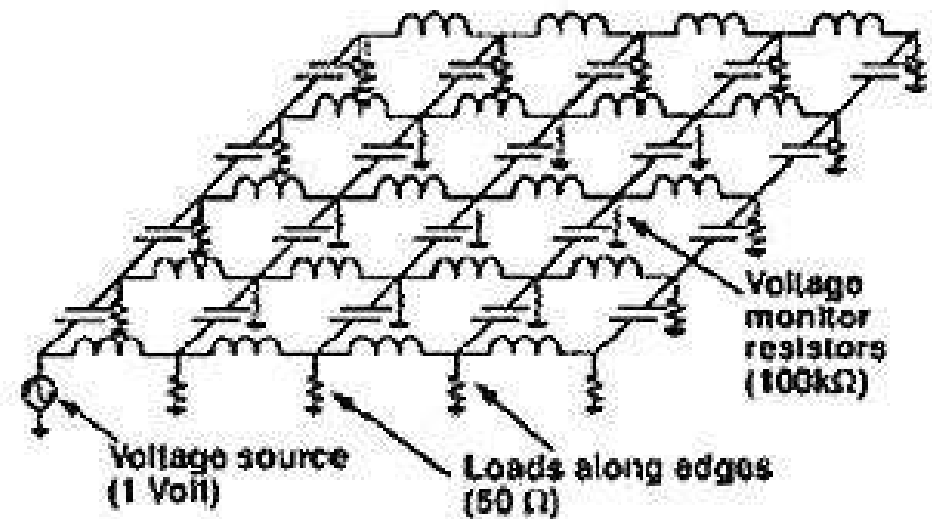
EMITTED / ADDITIVE LIGHT

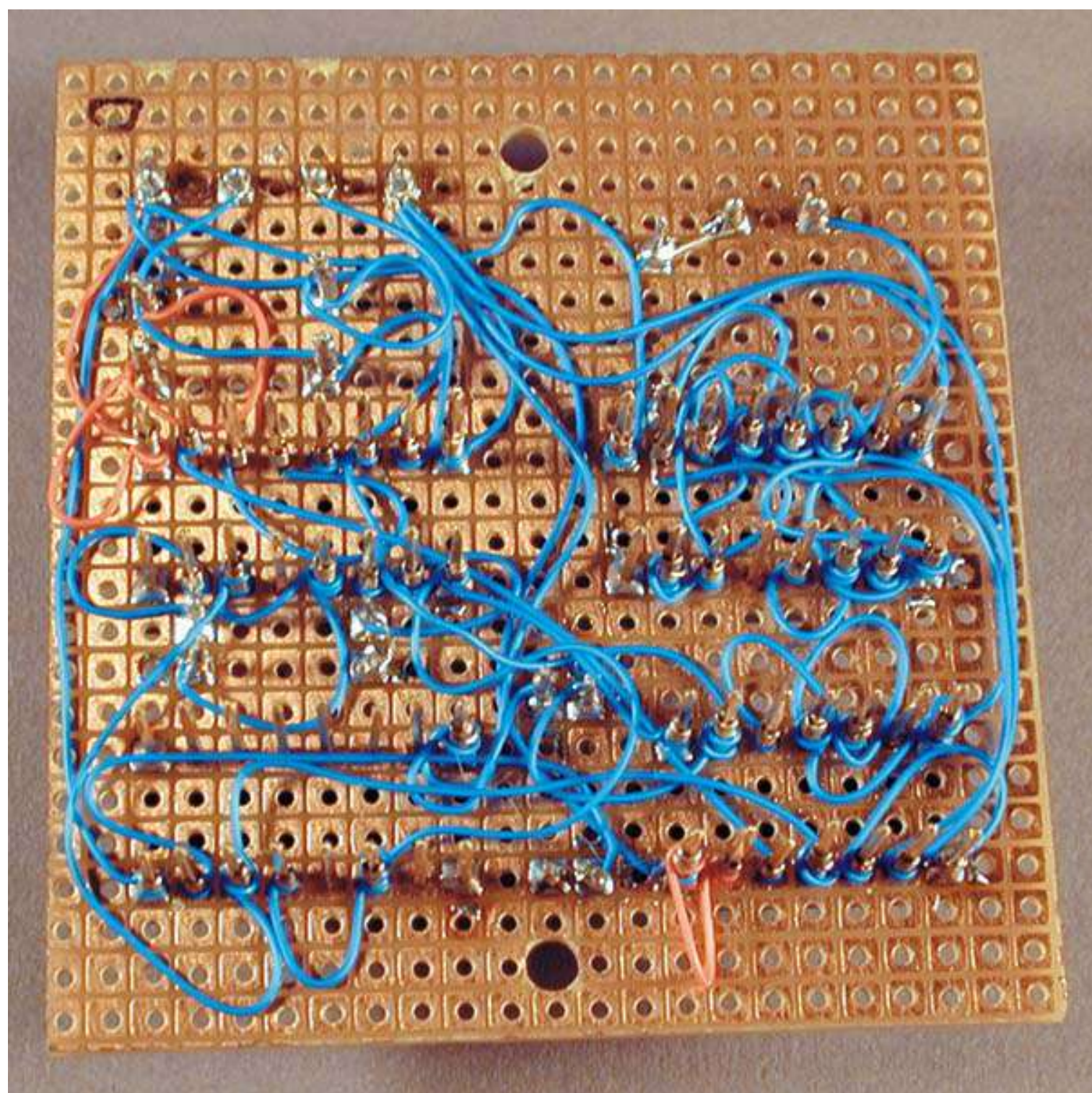


Perrigo Etheric Wave Accumulator



HERE, MR. PERRIGO SAYS, IS HIS SECRET, THE ONE HUNDRED LITTLE SPRING COILS OF COPPER WIRE BREAK UP THE ETHER WAVES AND CONDUCT THE ELECTRICITY THEY GATHER INTO THE BIG GENERATING COIL. THERE ARE TWO OF THESE PLATES, IDENTICAL IN APPEARANCE, BUT DIFFERENT IN WIRING.



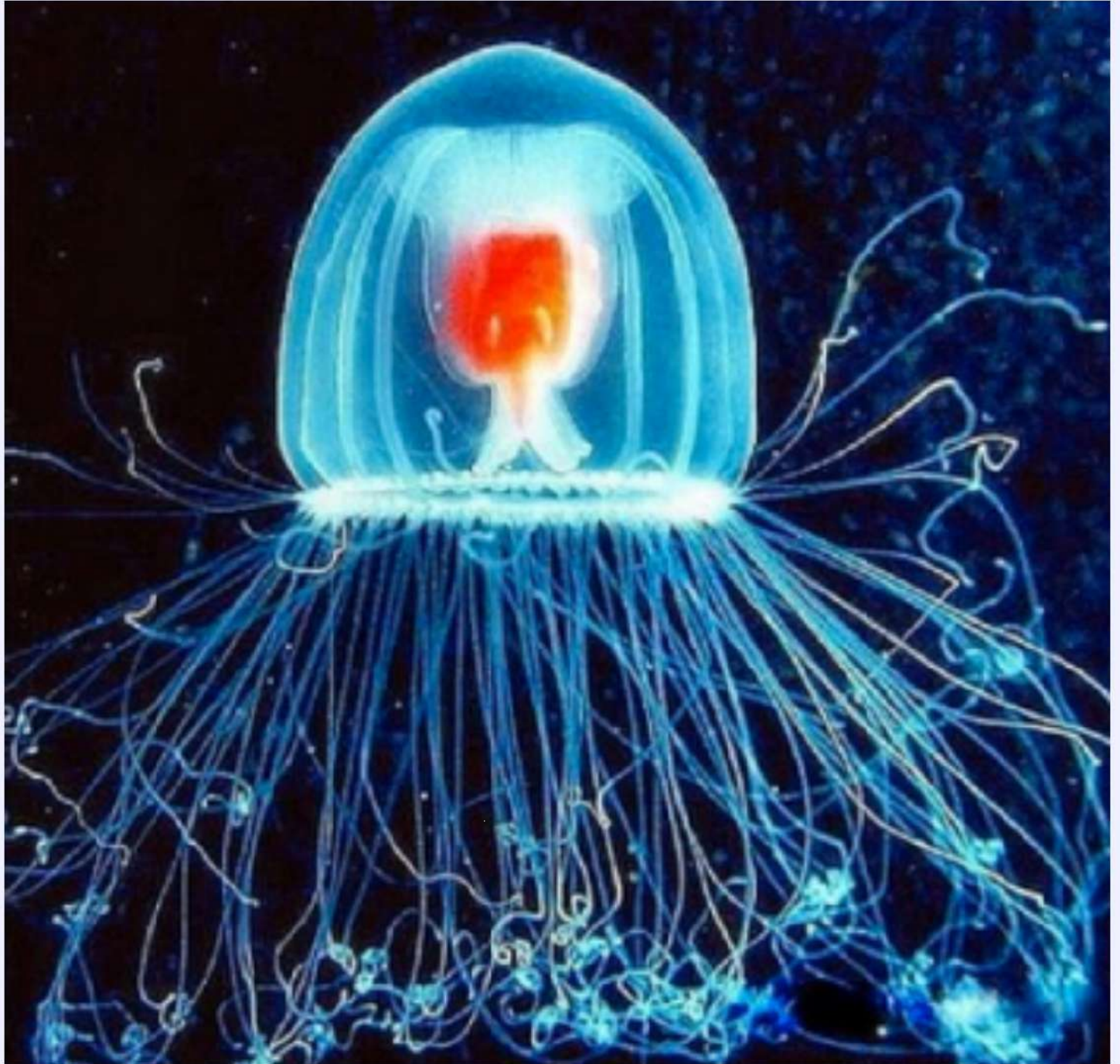




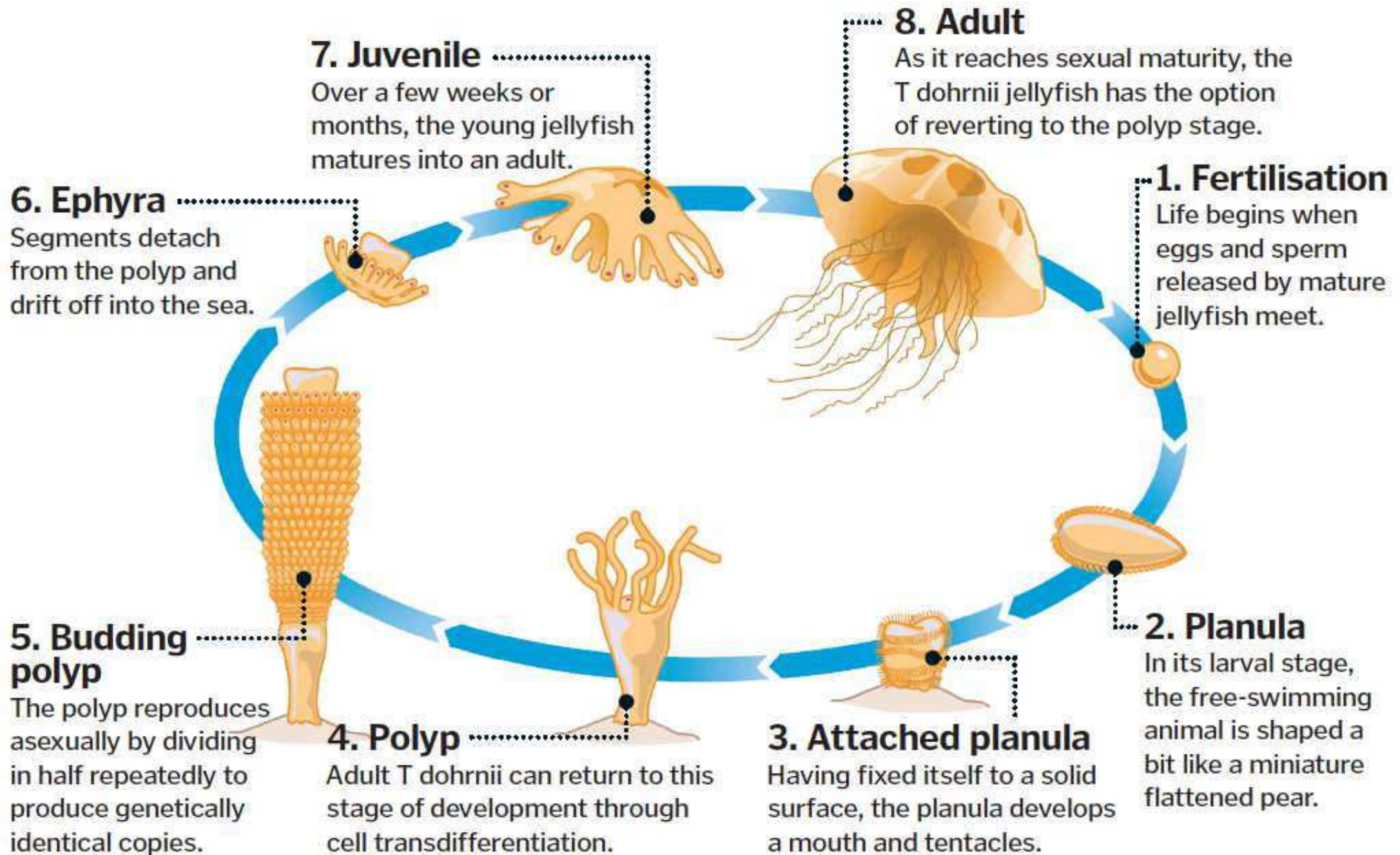


Turritopsis dohrnii - The immortal jellyfish

Turritopsis rubra



*Commonly confused with immortal
jellyfish (c) Photo Credit: Peter
Schubert / The Hydrozoa Directory*





Human Chakra System

52 Human Chakra System Elements



Colors

1. Red
2. Orange
3. Yellow
4. Green
5. Blue
6. Indigo
7. Violet
8. White Light
9. Black
10. Rainbow
11. Emerald
12. Silver
13. Gold

Tones

1. Lam
2. Vam
3. Ram
4. Yam
5. Hom
6. Shom
7. Ohm
8. Ahh
9. Hum
10. Ohm
11. Ahh
12. Hu (silent)
13. Hu

Causes

1. Appreciation
2. Breathing
3. Creativity
4. Calm
5. Blissful
6. Awareness
7. Love
8. Nature
9. You
10. I
11. All
12. Oneness
13. Wakantanka

Use one or more of the above Causes to activate or illuminate thirteen major chakras of the human body. Add color, tones, and visualization to dramatically improve process and state of well-being, sustenance, and integration of mind, body, heart and soul.



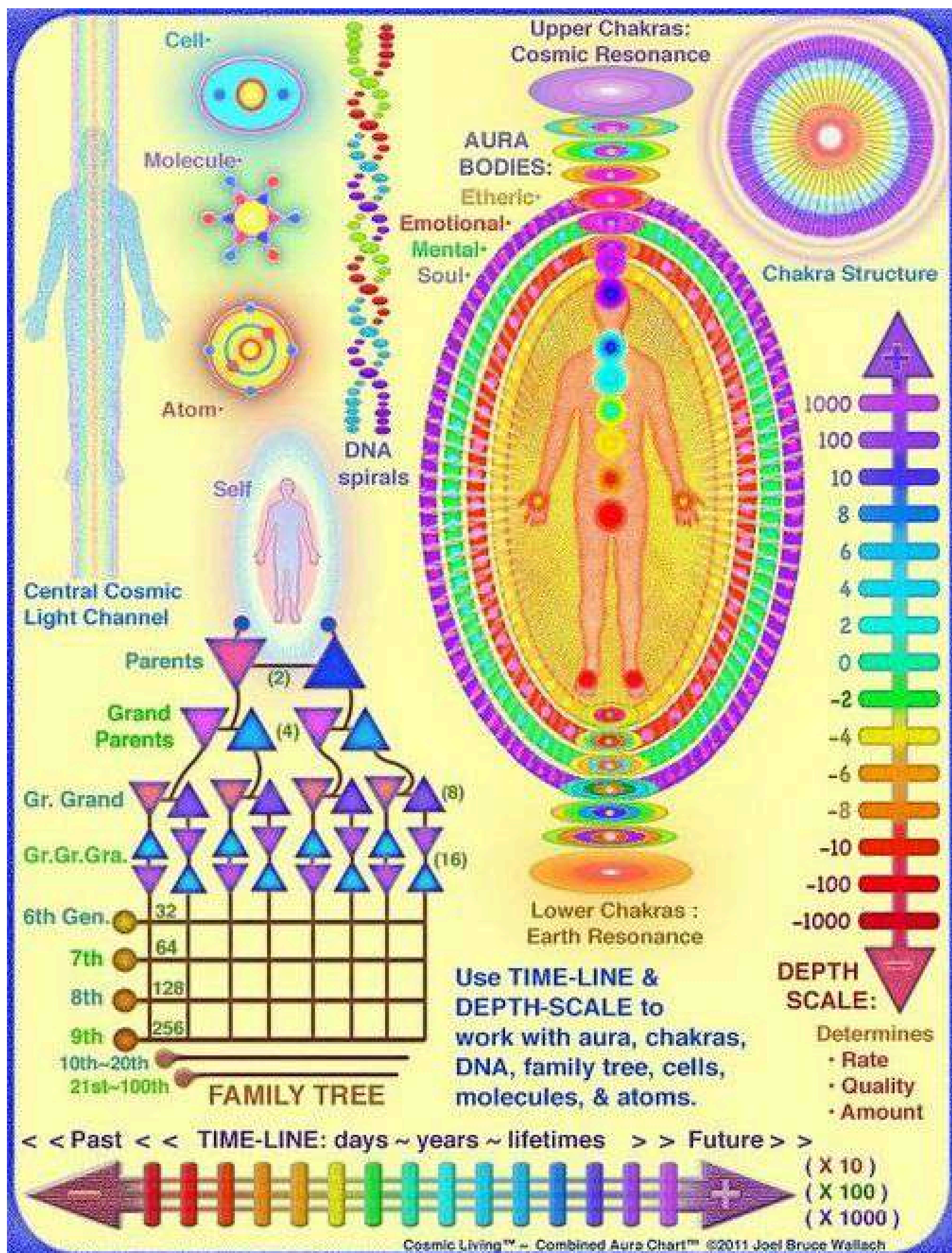
Effects

1. Survival
2. Breathing
3. Creativity
4. Love
5. Communication
6. Intuition
7. Soul
8. Nature
9. Spirit
10. Self
11. All
12. Oneness
13. Great Mystery

The objective is creating an ever-deepening connection (communication and cooperation) with the Source (by whatever name) and activating the Merkaba via illumination of the 13 chakras



Note: begin with the ABC's (Appreciation - Breathing - Creativity) as an exercise. These are all you need. They are the foundation for whatever else you want to experience or create. Focus on each for at least five seconds. Add other elements and time, energy, attention, focus and passion that enthusiasm provide. Next comes visualization of the Merkaba and beginning to experience Out of Body Travel / Soul Travel / and much more...



The equilateral geometry of Musical Notes



doubling
1:2 or 2:1
halving
16.351 Hz



0.973
17.324 Hz



1.030
18.354 Hz



1.091
19.445 Hz



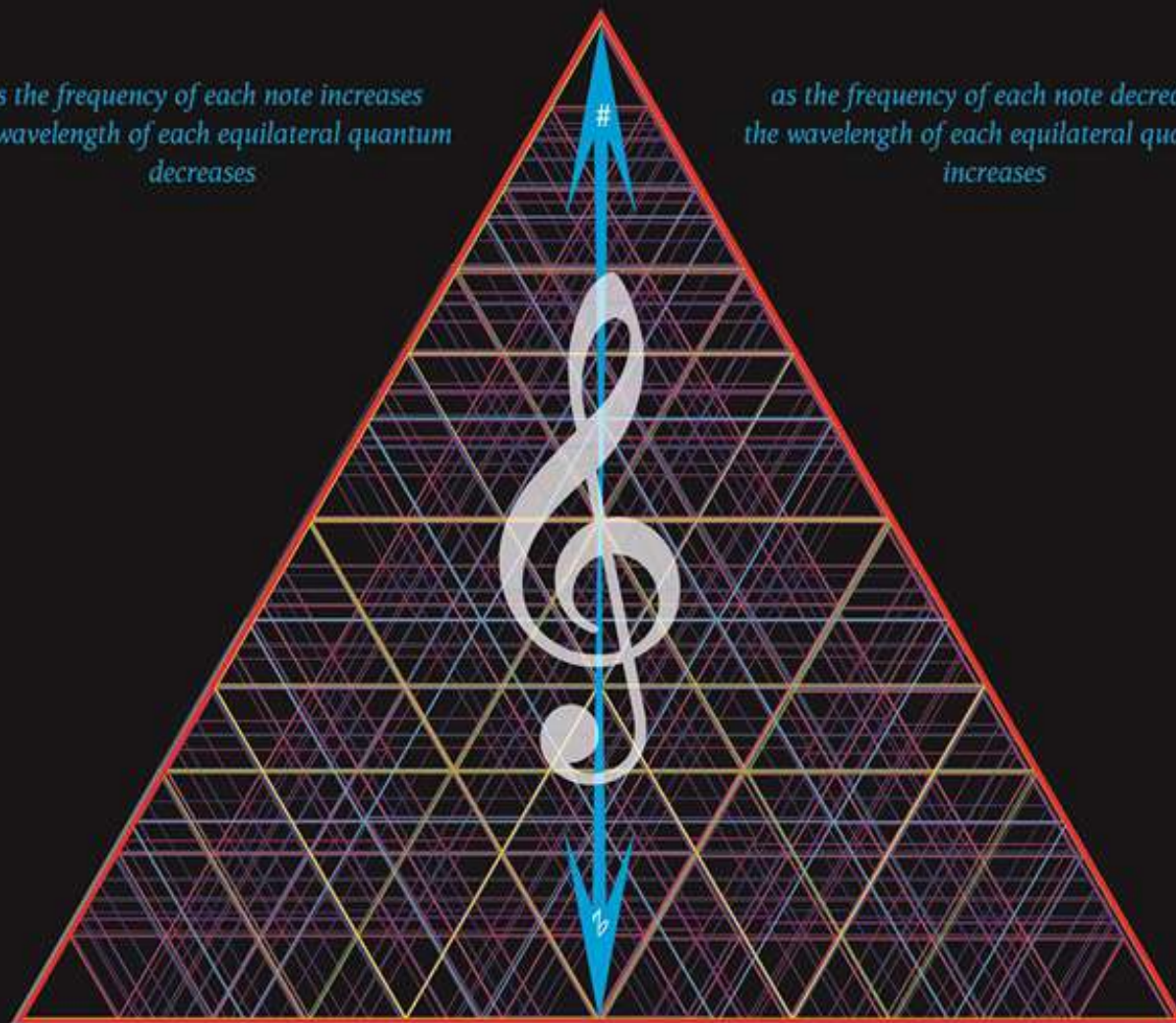
1.156
20.601 Hz



1.226
21.827 Hz

*as the frequency of each note increases
the wavelength of each equilateral quantum
decreases*

*as the frequency of each note decreases
the wavelength of each equilateral quantum
increases*



1.297
23.124 Hz



1.375
24.499 Hz



1.457
25.956 Hz



1.544
27.500 Hz



1.635
29.135 Hz



1.733
30.868 Hz

**Just as in physics equilateral geometries can colour mapped to any musical frequency [or note]
and all 12 notes of a single octave can be related to a scalar equilateral field**

*[where two or more notes are played at once tetryonic differentials are created ala Fourier patterns revealing
a unique geometry created by the inter-relationships of individual notes to each other within any chord]*

**"IF YOU ONLY KNEW THE MAGNIFICENCE OF
THE 3, 6 AND 9, THEN YOU WOULD HAVE
A KEY TO THE UNIVERSE." -TESLA**

3 6 9



3 triangles :

$$1.4.7 = 12 = 3 \quad 8+1=9 \quad 7+2=9 \quad 6+3=9 \quad 5+4 = 9$$

$$2.5.8 = 15 = 6 \quad 1+2+4+8+7+5 = 18 = 9$$

$$3.6.9 = 18 = 9 \quad 1+2+3+4+5+6+7+8+9=45=9$$

Read More @ SITSSHOW.BLOGSPOT.COM





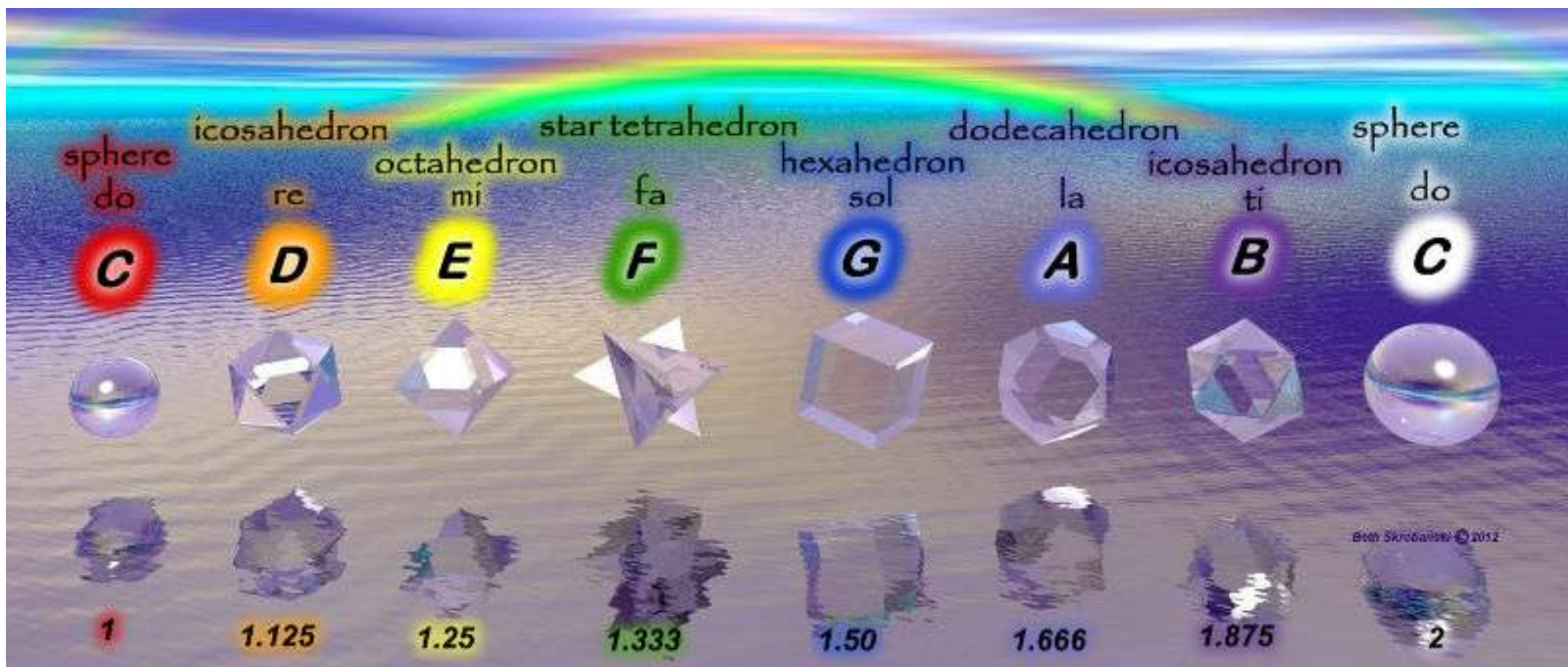


Table 1: Dinshah's Sound/Color Equivalent Chart.

Color	Frequency	Musical Note	Note Frequency
Red	397.5	G	378 (3 x 126 = 378)
Orange	430.5	A	432 (3 x 144 = 432)
Yellow	464.5	A#	459 (3 x 153 = 459)
Lemon	498	B	486 (3 x 162 = 486)
Green	531.5	C	513 (3 x 171 = 513)
Turquoise	565	C#	540 (3 x 180 = 540)
Blue	598.5	D	567 (3 x 189 = 567)
Indigo	632	D#	594 (3 x 198 = 594)
Violet	665.5	E	648 (3 x 216 = 648)
Purple	565*	A# and E	562*
Magenta	531.5*	G and E	525*
Scarlet	498*	G# and D	501*

 *denotes reverse polarity. From:

Dinshah GP. Spectralchrometry Encyclopedia, 3rd Ed.





The extreme alternative of ascension (transvibration) of some 1.2% of people of planet Earth is through evacuation by the Cosmic people - Heavenly Angels onto their space ships (see the pic.)

Another alternative is the **spontaneous transvibration together with planet Earth** (3 - 5 days of darkness and without electricity, no need to stockpile - vital functions will be slowed down).

People **NEED NOT** transvibrate (and thus leave this place) all **AT THE SAME TIME**; tens of thousands of people were already taken onto the space ships from **DISTRESSED AREAS** (earthquakes - e.g. Turkey, war conflicts - e.g. the Middle East, etc.). Others may transvibrate e.g. in **2 EVACUATION WAVES** (at night, mostly in sleep). Another ones may leave this space through **DIMENSIONAL TUNNELS - GATES**, either **NATURAL** (in Czech republic - e.g. Rip, Hostyn and many others) or **ARTIFICIAL** ones (created by the Cosmic people - near cities & towns, for example).

The transvibration to higher dimension means **continuation of human life in much higher quality, more spiritual conditions in a new society** without money, wars, politics, manipulation and control, i.e. without slavery being so inherent and common here in the 3rd dimension of planet Earth under the command of the negative state - the pseudo-creators, saurians and evil spirits.

ONLY LOVING and **BELIEVING** people (who have their 4th - heart chakra opened) are able to transvibrate to higher dimension of planet Earth in the forthcoming years. These are **the ones who will have fulfilled their POSITIVE MISSION** chosen by them voluntarily prior to their birth - that is, **THE POSITIVE LIFE** and, in addition, some people have also chosen to be active in the fields of **HEALING, MEDITATION** or **TELEINFORMATION**. These are the **CONDITIONS FOR TRANSVIBRATION**.

Remaining 98% of people will continue to build with great interest and engagement from their own free will the **FULLNESS OF THE NEGATIVE STATE** together with the saurians/reptilians, evil spirits and their bosses - the pseudo-creators, who will control these people at 99.9% (in contrast to today's 90% control - year 2010) via microchips in people's bodies. **The purpose** of this situation is an excellent **SPIRITUAL LESSON AND LEARNING** (on one's own skin, so to speak) **WHAT NOT TO CHOOSE** - life **WITHOUT LOVE**, thus **LIFE WITHOUT COOPERATION AND CO-CREATION** **WITH THE PRIME CREATOR OF ALL AND EVERYBODY, THE LORD JESUS CHRIST**, who has permitted this situation to happen (see books of **NEW REVELATION**). Message 1570.

Pic. 467 EN

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**SHARE - The mother space ship
with headquarters of Ashtar Sheran's Grand Cosmic Squadron**

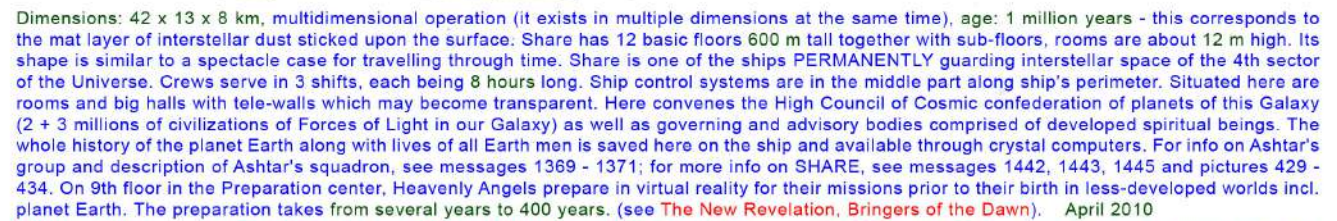
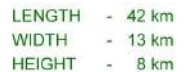
Dimensions: 42 x 13 x 8 km, multidimensional operation (it exists in multiple dimensions simultaneously), **age:** 1 million years - this corresponds to the mat layer of interstellar dust stuck upon the surface. Share has 12 basic floors 600 m tall together with sub-floors, rooms are about 12 m high. Its shape is rounded (much like a spectacle case) for travelling through time. Share is one of the ships PERMANENTLY guarding interstellar space of the 4th sector of the Universe. Crews serve in 3 shifts, each being 8 hours long. Ship control systems are in the middle part along ship's perimeter. Situated here are rooms and big halls with wall-displays which may become transparent. Here convenes the High Council of Cosmic confederation of planets of this Galaxy (2 + 3 millions of civilizations of Forces of Light in our Galaxy) as well as governing and advisory boards comprised of developed spiritual beings. The whole history of the planet Earth along with lives of all Earth men is saved here on the ship and available through crystal computers. For info on Ashtar's group and description of Ashtar's squadron, see messages 1369 - 1371; for more info on SHARE, see messages 1442, 1443, 1445 and pictures 430 - 434, 4504.

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Pic. 429 EN

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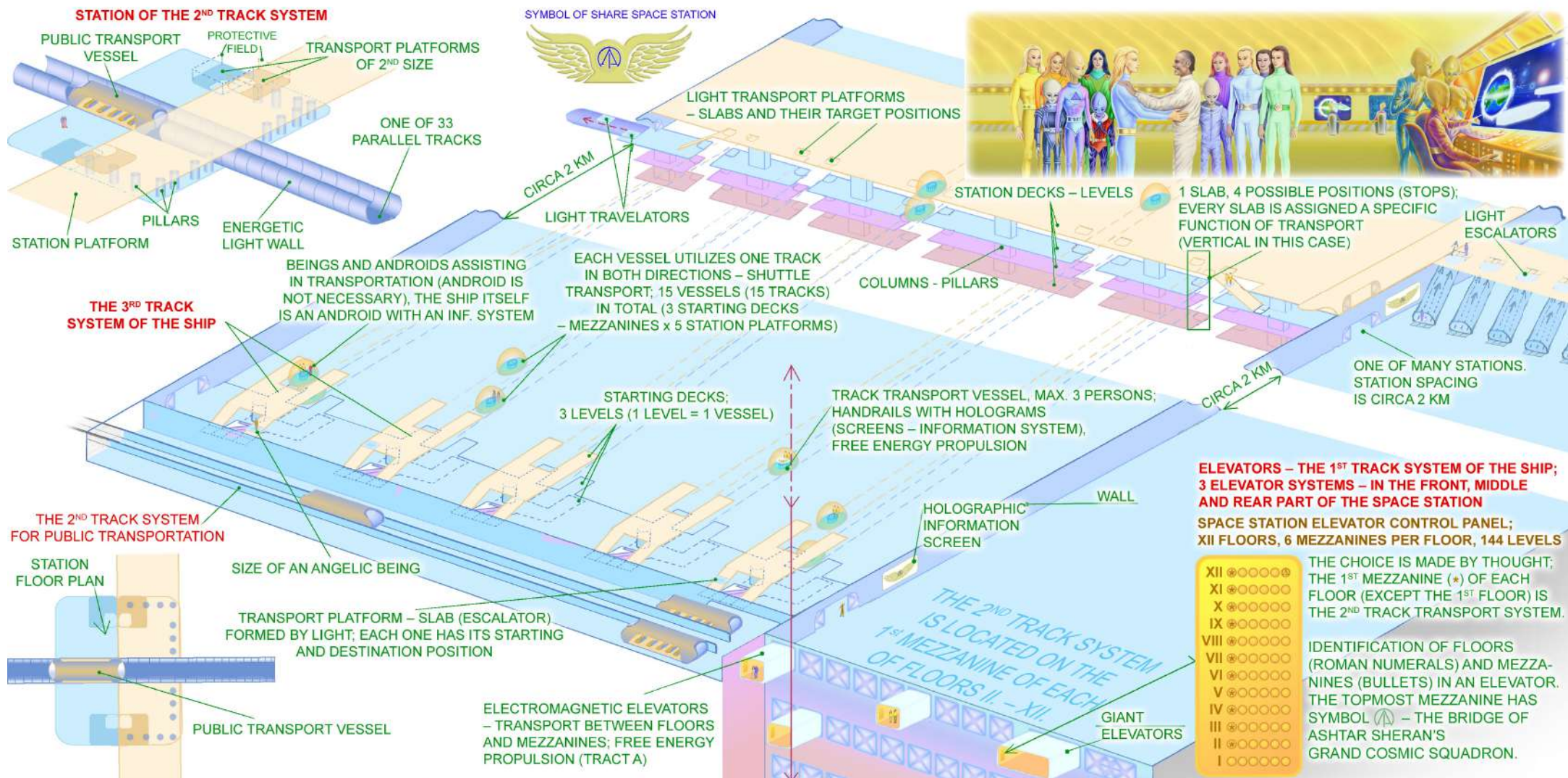
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SHARE - THE TRACK SYSTEM OF THE MOTHER SHIP OF ASHTAR SHERAN'S GRAND COSMIC SQUADRON



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 Pic. 4509 EN

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we-arent-slaves.org
anjeli-neba.sk
anjos-ceu.eu

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anjeli-svetla.sk
angeli-raja.eu

SHARE - FLOOR PLAN OF THE TRACK SYSTEM OF THE MOTHER SHIP OF ASHTAR SHERAN'S GRAND COSMIC SQUADRON

SYMBOL OF SHARE SPACE STATION



← SHARE WIDTH: 13 KM →

SHARE TRACK SYSTEM - STS

NUMBER OF FLOOR SYSTEMS OF THE 2ND AND 3RD TRACK SYSTEM (TS) IN THE SHIP: 11 (EXCEPT THE 1ST FLOOR)

2ND TS

NUMBER OF FLOOR SYSTEMS:

33 I.E. 11 x 3; THE FRONT, MIDDLE AND REAR PART OF SHARE

NUMBER OF TRANSPORT VESSELS:

99 I.E. 11 FLOORS x 3 PARTS OF THE SHIP x 3 TRANSPORT VESSELS

NUMBER OF CROSS-TRACTS IN THE SHIP:

66 I.E. 3 x 22 TRACTS - 2 TRACTS IN THE 2ND TRACK SYSTEM (X, Y)

3RD TS

NUMBER OF LONGITUDINAL TRACTS IN THE SHIP:

176 I.E. 16 TRACTS x 11 FLOORS IN THE 3RD TRACK SYSTEM (A - P)

NUMBER OF TRACKS:

240 TRACKS IN EACH SYSTEM (FLOOR) I.E. 15 TRACKS x 16 TRACTS

NUMBER OF VESSELS:

2640 (EACH TRACK HAS ONE DEDICATED SHUTTLE VESSEL,

240 TRACKS x 11 FLOORS = TOTAL OF 2640 TRACKS AND VESSELS)

EQUIPMENT STORAGE AREAS
+ ANDROIDS

2ND STATION

2 KM

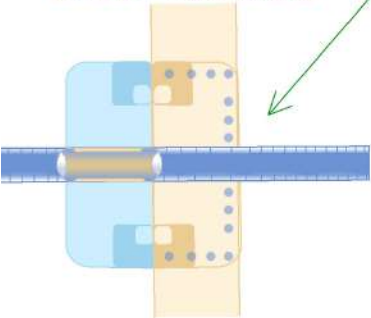
1ST STATION

2 KM

MAIN CORRIDOR OF A MEZZANINE

ELEVATORS
GAMMA TRACT

STATION FLOOR PLAN
OF THE 2ND TRACK SYSTEM



CORRIDORS WITH PLATFORM LIGHT
ESCALATORS CONNECTING MEZZANINES

ELEVATORS
BETA TRACT

2 TRACTS OF THE 2ND TRACK SYSTEM
16 TRACTS OF THE 3RD TRACK SYSTEM

ELEVATORS
ALPHA TRACT



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Pic. 4510 EN

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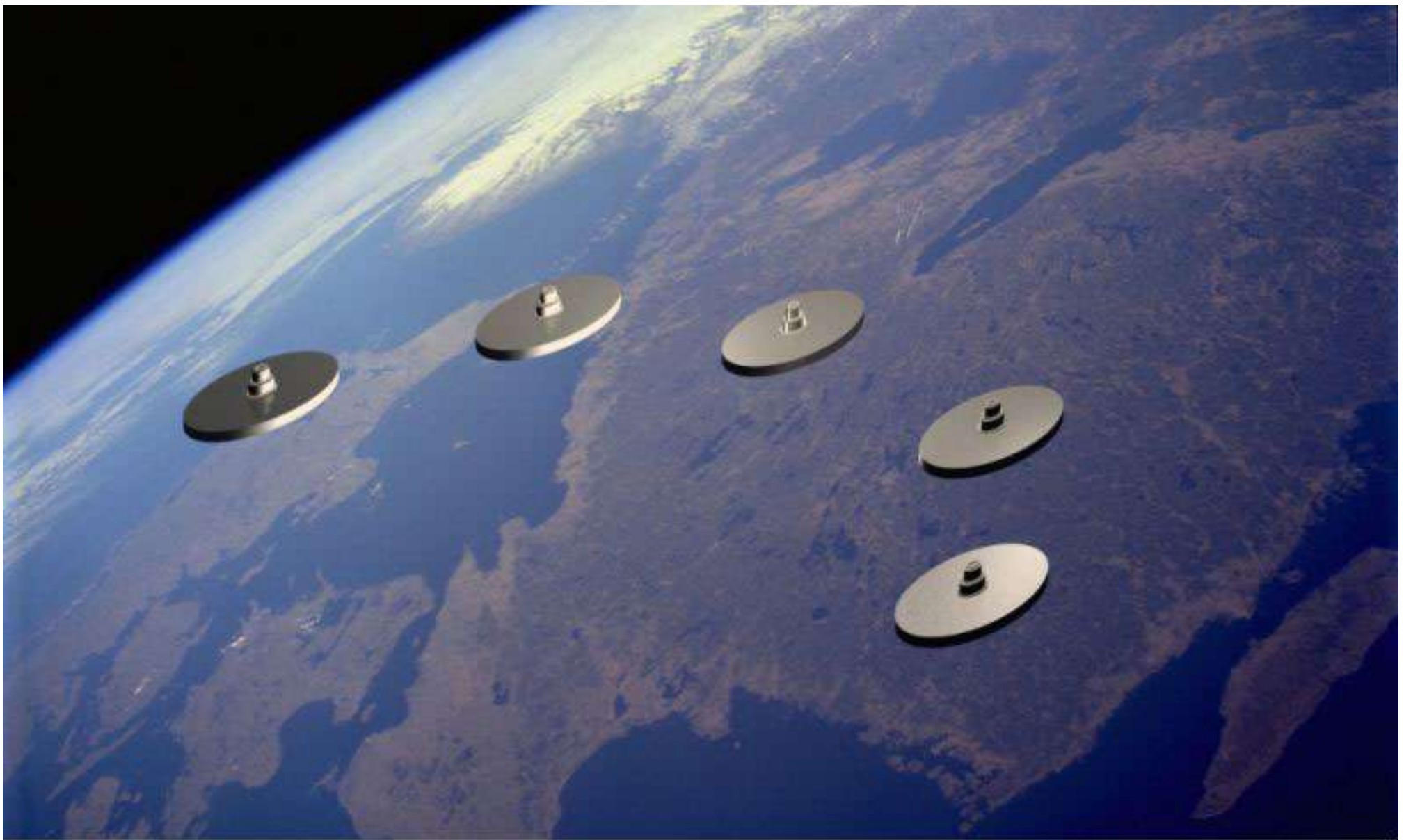
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andjeli-neba.com.hr



The illustrative photomontage of the exploration evacuation mother space ship PLEYA III, length 1.5 km, with a crew of 600 Cosmic people. The mother ship has many small exploration ships, which are kept at the bottom of the ship. The main part of the ship is in a shape of an ellipse in the ratio 2:1 (the width of the ship is 750m) and it consists of 7 decks. Three upper decks are used for working, the middle one contains green (height 30m) - trees, bushes, grass, fountains. Three bottom decks are used for living and spending spare time. More information can be found in the message 531.

Pic. 804 EN

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TALKS WITH TEACHINGS FROM MY COSMIC FRIENDS



ASHTAR SHERAN



ORTHON

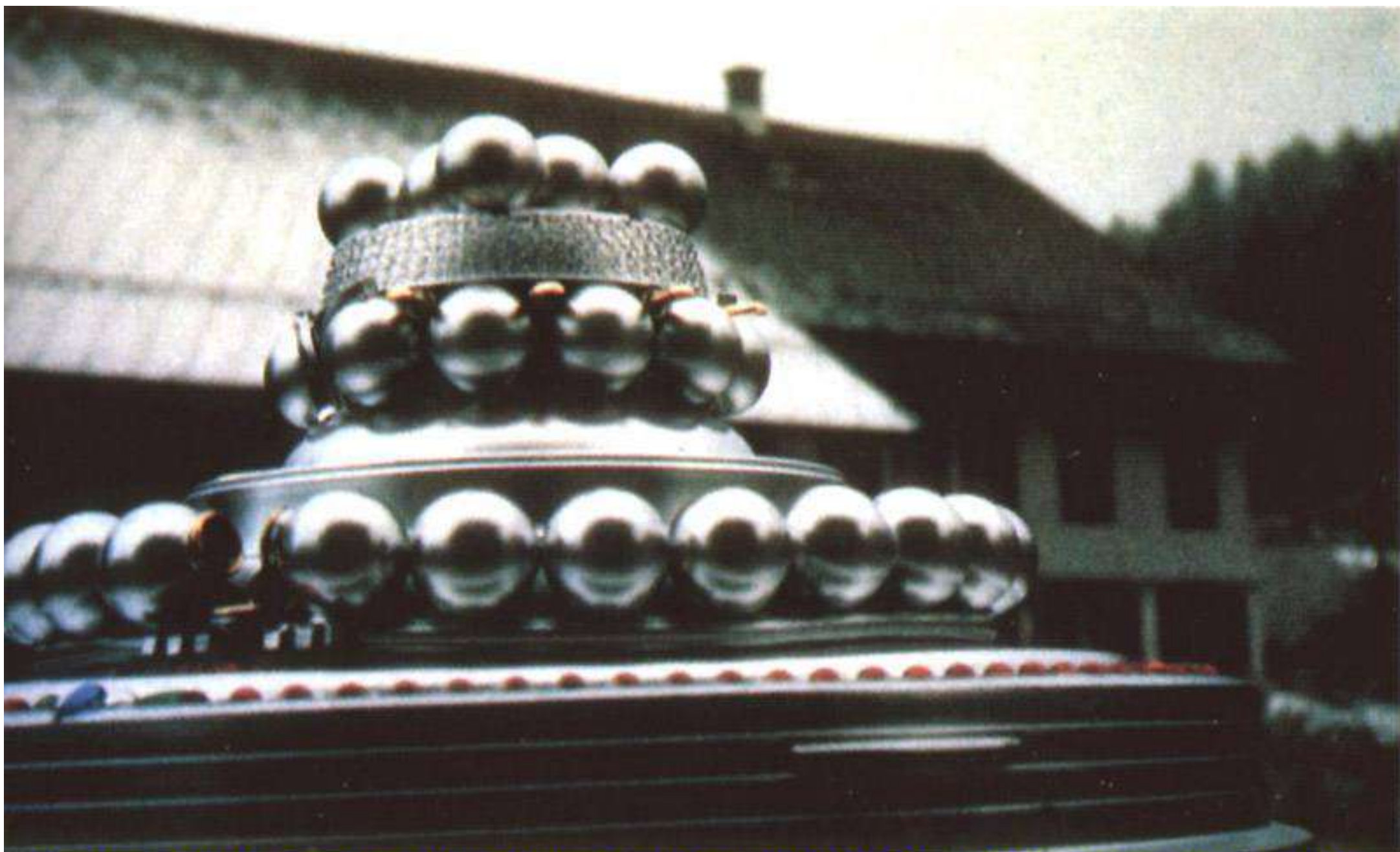
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THE PARTIAL ILLUSTRATION OF A LIFE ON THE NEW EARTH IN THE HEAVEN IS SHOWN BY THIS PICTURE. TODAY, THE NEW EARTH IS INHABITED BY BEINGS ORIGINALLY COMING FROM THE OLD EARTH, WHO HAVE MANAGED WITH THEIR MISSION OF LIGHT OVER THERE. CURRENTLY THIS IS CIRCA 2 % OF PEOPLE OF THE MANKIND'S POPULATION. THESE SOULS GOT THERE TECHNICALLY EITHER AFTER THE DEATH OF PHYSICAL BODY (MAJORITY) OR BY OVERVIBRATION WITH THE ORIGINAL BODY FROM THE OLD EARTH (MINORITY). IN THE NEAR FUTURE (FROM 2008 ON), THE EVACUATION (THE OVERVIBRATION) OF ALL THE CURRENTLY LIVING POSITIVE PEOPLE (2 %) MAY OCCUR, E.G. DUE TO STRENGTHENING PURIFICATORY PROCESSES OF THE PLANET EARTH BECAUSE OF COARSE VIBRATIONS OF NEGATIVE PEOPLE, OR DUE TO CRAZY BUILDUP OF CHIP TOTALITY BY SAURIANS FROM THE DARK WORLDS AND THEIR PUPPET-PEOPLE ON THE EARTH. LIFE ON THE NEW EARTH IS HAPPY, BASED ON PURE LOVE, HARMONIOUS, RICH IN EXPERIENCES AND IN A FULL CONTACT AND COOPERATION WITH LOTS OF OTHER HEAVENLY NATIONS OF ANGELS IN HEAVEN WHO ARE CONSTANTLY AND UNSELFISHLY READY TO HELP ANYBODY.

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Pic. 4613 EN andele-svetla.cz vesmirni-lide.cz himmels-engel.de angeles-luz.es angely-sveta.ru

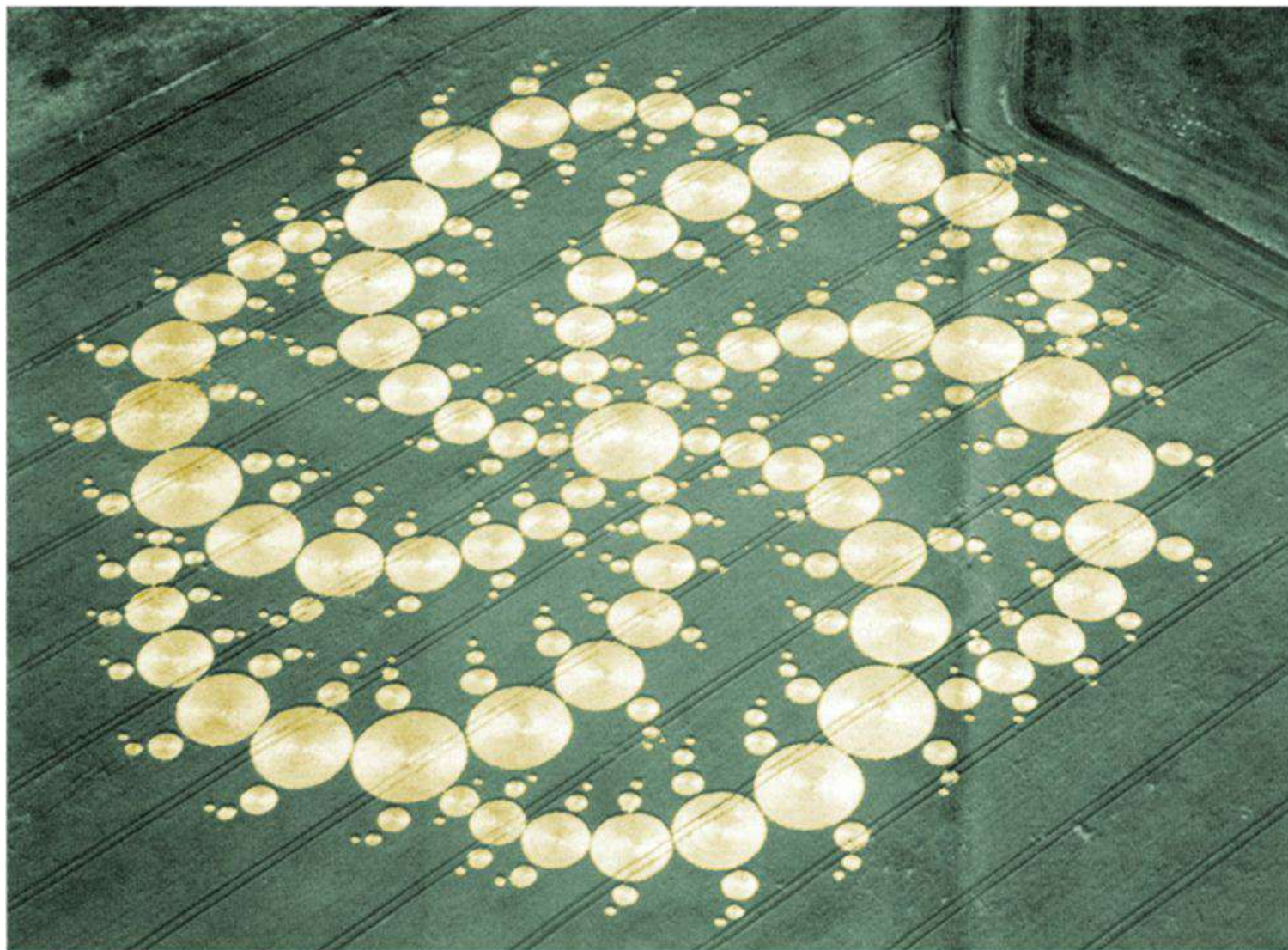


Demonstrační loď řízená na dálku Semjase z jiné lodi 22.10.1980 , foto Meier, Semjasino středisko stříbrné hvězdy, Švýcarsko, průměr lodi 7m, Bezpilotní loď je použita z důvodu bezpečnosti posádky.

Obr. 26

www.vesmirni-lide.cz

www.andele.svetla.cz



Sdělení 1701, 1702 jsou přijata k **největšímu piktogramu** v obli o průměru **přes 260 m**, který byl pořízen **Vesmírnými přáteli – Ptahovou flotilou 12.8.2001**. Celý piktogram se sestaven pouze ze **409** dotýkajících se plných kruhů tvořících **6 spirál – ramen ze středu, jejichž konce se dotýkají poloviny sousedního ramene**. Bylo to vyvrcholení všech dosavadních piktogramů na planetě Zemi, které pozorovatelé označili za nejimpozantnější útvar, jaký se kdy objevil. Ležel na **úbočí kopce ve Wildshire v Anglii**. Některé z kruhů mají průměr až **24 metrů** (jako velký dům) a celá formace se rozprostírá na ploše **60 000 m čtverečních**. Nepodařilo se uspokojivě vysvětlit, jak by se něco podobného dalo stihnout lidským přístupem za jedinou letní noc (je krátká). Navíc elektrostatické a magnetické měření ukázalo, že elektrostatické napětí v soustředných kruzích dosahuje hodnotu až **80 voltů**. (Popis z původního zdroje – pozn. zpracovatele.) Pro pochopení předané informace je potřeba mít znalosti **Duchovního učení** (viz www.vesmirmi-lide.cz a zde zvláště **NOVÉ ZJEVENÍ**) a **minimální základy numerologie**. Pro příjemce je navíc nezbytná **kvalitní niterná komunikace v lásce a pokoře**. Tedy celkově je potřeba být v **pokročilejší pozici Duchovní cesty**.

Přijal Pavel K. 27.11.2002:

„Datum vzniku 12.8.2001: Numerologický součet čísel je: $1 + 2 + 8 + 2 + 1 = 14$ a to je: $1 + 4 = 5 = 5$. **DIMENZE – PŘEVIBROVÁNÍ** – informace k důležité události **Země a lidí – převibrování ze 3. do 5. dimenze**.“

Přijal Ivo A. Benda 27.11.2002:

„**6 ramen po 13 člancích**: $6 \times 13 = 78$; $78 + 1$ (střed) = $79 = 7 \times 7 =$ **DUCHOVNÍ PLNOST**. Spirála znázorňuje **DUCHOVNÍ CESTU POZEMSKÉHO ČLOVĚKA**, v závěru **ROTACE a UMOCNĚNÍ ENERGIE – PŘEVIBROVÁNÍ**. Střed = výchozí bod – 3. dimenze, obvod = 5. dimenze. Napojení jakoby zpět značí v 5. dimenzi schopnost maximálně využít minulých prožitků (včetně z minulých životů), kruhy = **ETAPY SE ŽIVOTY**, boční kroužky značí odhazování negativních energií z **genů** při zvládnutých **duchovních zkouškách**, ale také možnosti volby jít **SLEPOU CESTOU** neúspěchu a chyb (jakoby plýtvání energií). Rozměry kruhů mají info o **INTENZITĚ** – pracnosti – **duchovní práce**: 2. půlka spirál se již **ZMENSUJE**, neboť je více vysvobozená z pastí negativního stavu a spojení s jinou spirálou značí též schopnost **VYUŽÍVAT INFO – prožitky svých MDB** (multidimenzionálních bytostí – já), tím se **SNÍŽUJE** odpor 2. strany, a tedy pracnost v původním chápání. Tehdy se stále více využívá **darů Ducha**. 6 spirál značí **VZESTUP ČLOVĚKA (= 6)** a také **VZESTUP 6 MDB s ženským - femininním principem** (láska a dobro) a **mužským – maskulinním principem** (pravda, moudrost), tj. celkem **12 MDB ve 12 dimenzích tohoto hmotného Vesmíru**.

Kruhy spirál značí **ETAPY V DUCHOVNÍ CESTĚ**: Kruhy jsou **RŮZNÉ**, ne stejné, zato střed a 6 spirál a jejich propojení je **JEDNOZNACNÉ**. Těch, které se **NEDOTÝKAJÍ** středu (Stvořitel) a další spirály (Jednota), je **11**! $1+1$ je **výrazněná 2 – PRŮNIK** pozitivního a negativního stavu! Největší kruh na spirále značí **BOD ZVRATU – OBRATU**, tj. když dochází k **OBNOVENÍ** pevného spojení do **JEDNOTY**. Zvětšování kruhu = zvětšování oddělenosti, a opakem je zmenšování oddělenosti a je zde **SYMETRIE**. Výchozí dokonalá úroveň je **PŘEKONÁNA** vyšší dokonalou úrovní – **VNEJŠÍ KRUH**, a stále do **NEKONEČNA – PRINCIP POSLOUPNOSTI TVORENÍ**. Na konci etapy je **POSLEDNÍ SOUD – sebesoud – POCHOPENÍ** – zapojení konců spirál a značí to také, že **MDB jsou na sobě ZÁVISLÁ**.

Dále piktogram značí **popis Stvoření**: Ve středu **VNITŘNÍ NEBE** emanující přes **STŘEDNÍ NEBE** (spirály) do **VNĚJŠÍHO NEBE**. Tam je nejzazší úroveň – **ZOBRAZUJÍCÍ**, proto to zvláštní – **zpětnovazební** zapojení konců spirál do středu následující spirály. To, že je sestaven **JEN Z KRUHŮ** značí, že v každé části celého Stvoření je **STVOŘITEL PRVOTNÍ VŠEHO A VŠECH** (kruhů), kruhy se **DOTÝKAJÍ – vše je se vším spojeno, tvoří CELEK – JEDNOTU**. Ve středu je 6 vrcholů – začátky spirál – **MERKABA**. Celkem 409 kruhů: $4 + 9 = 13 = 1 + 12 =$ **Stvořitel Prvotní + 12 dimenzí tohoto hmotného Vesmíru**. 12 je základním strukturálním číslem Stvoření, např. 12×4 dimenzí má celé Stvoření (**12 – vnitřní, 24 střední, 12 vnější**).

Je tam **ZÁKLADNÍ PRVEK TVORENÍ**: Nejprve **ODDĚLENÍ** od Stvořitele (nejednou), **CESTA ODDĚLENOSTI** (včetně oddělení energií po stranách), a pak v **nejzvěřejší úrovni SPOJENÍ DO JEDNOTY** (postupný proces).

Spirála vyjadřuje **ROTACI: VSE JE V POHYBU, VE ZMĚNĚ**. Znamená to také **JEDINOU SPIRÁLU**, kdy každé stvoření **POZNÁVÁ SAMA SEBE**, tj. **STVOŘITELE PRVOTNÍHO VŠEHO A VŠECH**, a to skrze **SVĚ PROŽITKY** a to poznání je **NEKONEČNÉ – POHYB SPIRÁLY STÁLE DOKOLA**. Pokud bereme těch 6 KROKŮ, značí, že se nejvíce poznává přes **ČLOVĚKA (6)**! **ZDE V NEJZAZŠÍ ZEVNĚJŠNOSTI JE NEJZAJÍMAVĚJŠÍ TVORBA – ODPOVĚDI NA POLOŽENÉ OTÁZKY!**

Přijal Ivo A. Benda 10.12.2002:

Jeho umístění na úbočí kopce ve Wildshire v Anglii je **ODPOVÍDAJÍCÍ MÍSTU**, kde byla položena tato otázka bytostí civilizace Adam a Eva na Pravé planetě Zemi a v Pravém Stvoření. Ano, tento piktogram je **SOUČÁSTÍ** odpovědi na otázku: **JAK by vypadal život BEZ spolupráce se Stvořitelem Prvotním všeho a všech a BEZ dodržení jeho 3 nejdůležitějších ZÁKONŮ LASKY**. Tato odpověď je zahrnuta i v tomto piktogramu, i když plně bude zodpovězena v **PLNOSTI NEGATIVNÍHO STAVU**. (Viz **Nové zjevení** – pozn. zpracovatele).



PEOPLE !

Saurians 🦎 from the
Dark worlds want to put

CHIPS INTO YOUR BODIES

and **ENSLAVE** you like **POOR PUPPETS !!!**



A POSITIVE LOVING MAN
A FREE MAN



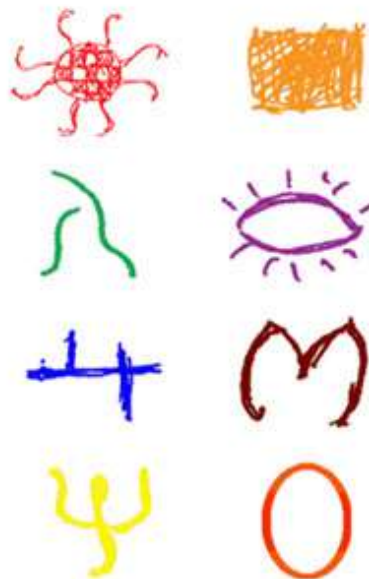
BY EMITTING LOVE IN HIS LIFE
FROM HIS SPIRITUAL HEART,
THE POSITIVE LOVING EARTH MAN
PREVENTS DARK CONTROL PROGRAMS
FROM PENETRATING INTO HIS BODIES

A NEGATIVE NON-LOVING MAN
AN UNFREE - CONTROLLED PUPPET-MAN



A NEGATIVE UNLOVING EARTH MAN,
WHO DOES NOT RADIATE LOVE FROM HIS
SPIRITUAL HEART IN HIS LIFE, DOES NOT
PREVENT DARK CONTROL PROGRAMS
FROM PENETRATING INTO HIS BODIES

SOME OF MANY PROGRAMMED
CONTROL SYMBOLS BEING
TRANSMITTED FROM THE DARK WORLDS



PLANET EARTH POSES NO OBSTACLE
FOR CONTROL SYMBOLS,
BUT LOVING ENERGIES NEUTRALIZE THEM



At the present time, they control your thoughts
and acts at 90 % !

December 21, 2006
noverichipinside.com

Stop building up the CHIP TOTALITY !

foebud.org

Do not be their controlled PUPPETS anymore !

See pic. 2000 and 2002. See the PETITION AGAINST MICROCHIP TOTALITY, message 1622

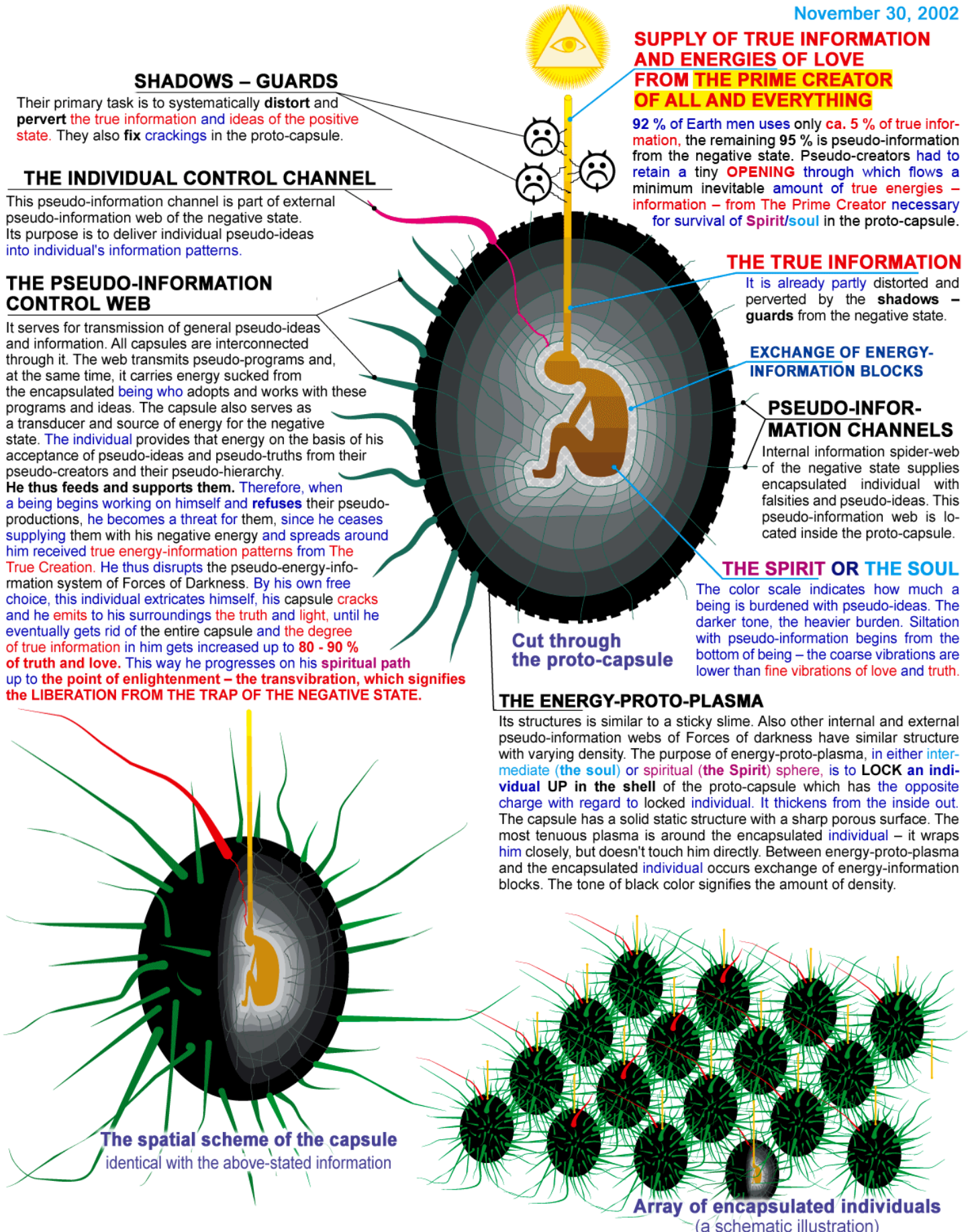
See THE SERMON ON THE MOUNT, books of THE NEW REVELATION and 10 parts of TALKS WITH TEACHINGS FROM MY COSMIC FRIENDS (more than 7000 pages, 5000 pictures) at www.angels-light.org, www.cosmic-people.com. Message 3000

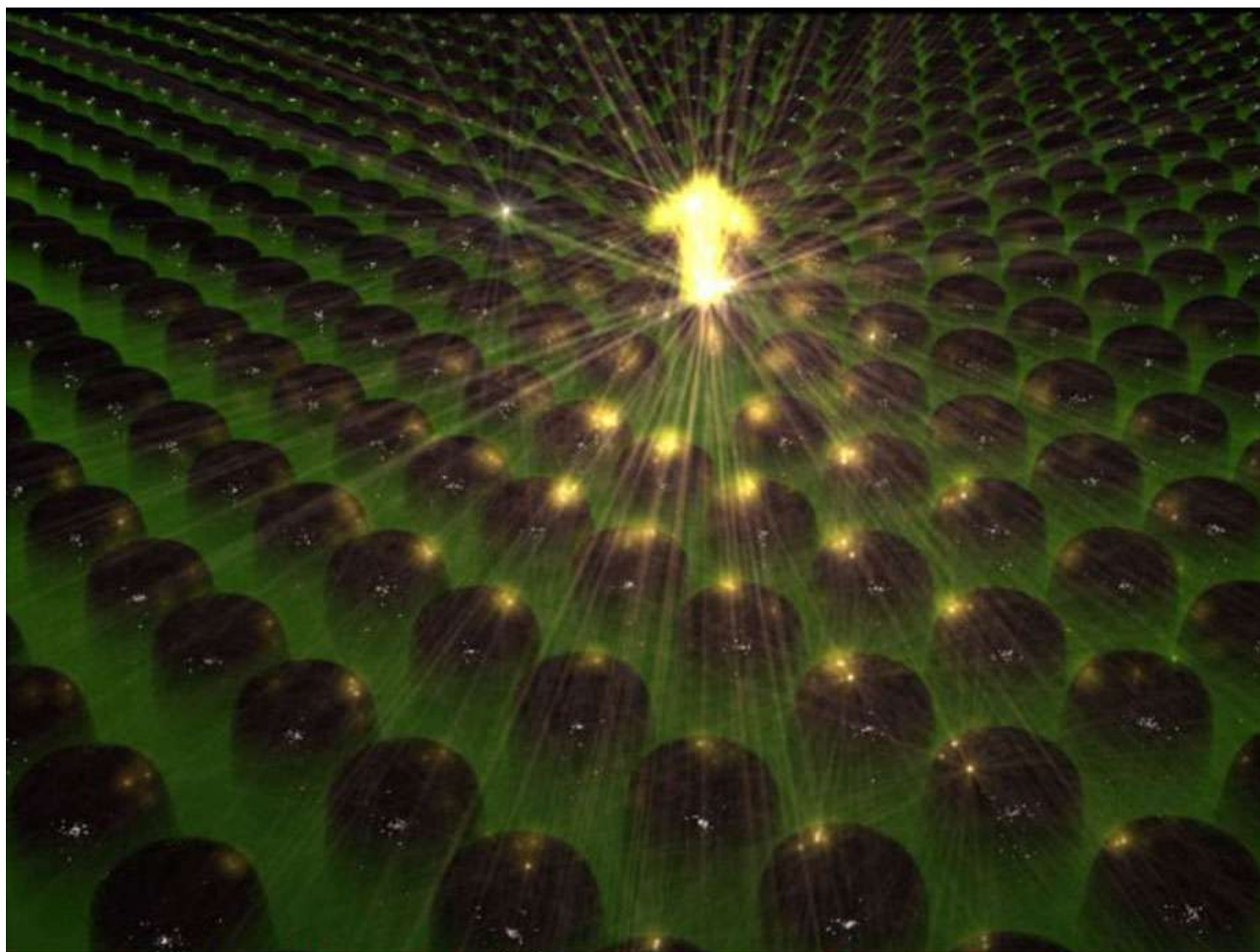
Pic. 3000 EN Leaflet 150 cosmic-people.com angels-heaven.org Pass this on to others ! Page 1

SCHEME OF THE ENERGY-PROTO-PLASMATIC CAPSULE

This part of message 1718 is a continuation of message **THE SPIRITUAL PATH** – messages 819 - 847 and of further messages 1564, 1578, 1579, 1684-1688, 1694-1699, 1702, 1709, 1710, 1713, 1714, 1717, 1718, as well as pictures 467, 539-548, 678-689, 767, 768, 776 und 781-791, 793. The most elaborate information can be found in books of **THE NEW REVELATION**. We recommend to study these sources in the first place.

November 30, 2002



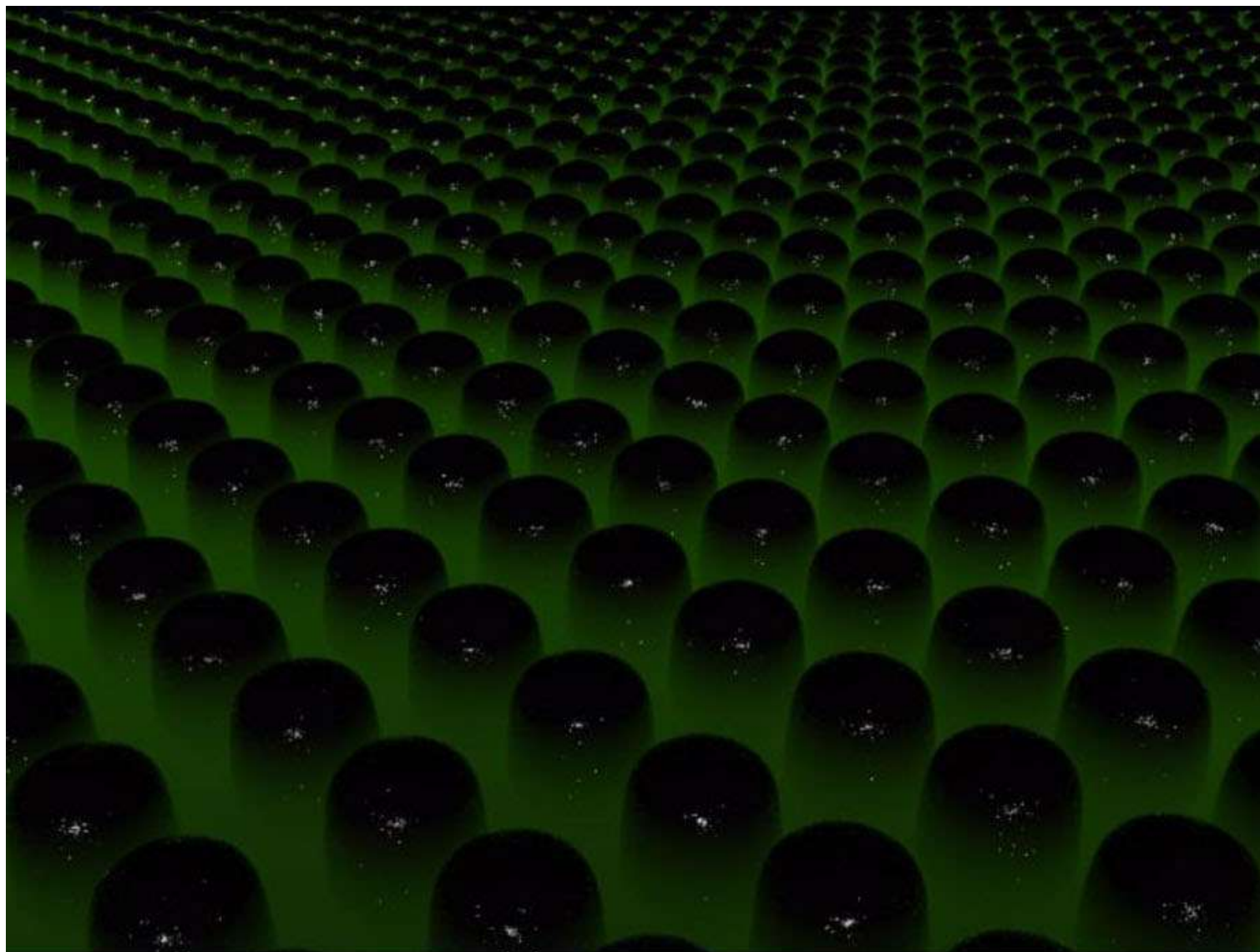


A DECAPSULATED INDIVIDUAL (THE SPIRIT OR THE SOUL), PROCEEDING FURTHER ON THE SPIRITUAL PATH BY EMPLOYING HIS SPIRITUAL GIFTS, CONSCIOUSLY COVERS THE SPACE AROUND HIM WITH THE INFORMATION FIBRES OF LIGHT AND SO HE EFFECTIVELY DISSEMINATES THE TRUE LIGHT INFORMATION. BY GRADUAL RISING UP AND BY THE WORK OF LIGHT, HE PROGRESSES UP TO THE POINT OF TRANSVIBRATION. IN GRADUAL STEPS, HE REACHES THE 10% DEGREE OF THE CONTROL AND 90% DEGREE OF THE TRUE INFORMATION (THE OPPOSITE OF ENCAPSULATED MAN). HE PERFORMS HIS SPIRITUAL MISSION, FOR THE SAKE OF WHICH HE CAME – INCARNATED – ON THE PLANET EARTH.

SEE MESSAGES 819 - 847 – THE SPIRITUAL PATH FROM BOOK III. TALKS WITH TEACHINGS FROM MY COSMIC FRIENDS, AND ALSO MESSAGES 1561, 1578, 1579, 1684 - 1688, 1694 - 1699, 1702, 1709 - 1710, 1713 - 1714, 1717. SEE ALSO BOOKS OF THE NEW REVELATION (THE KEY MATERIAL). THIS PICTURE IS A CONTINUATION OF PICTURES 782 - 792, 467, 678 - 693, 765 - 772, 741, 539 - 548. IT IS STRONGLY RECOMMENDED TO STUDY THESE SOURCES FIRST.

THE TRUE AND REAL STATE OF MANKIND IS ILLUSTRATED IN MANY MOVIES AND FAIRY TALES, E.G. THE MATRIX (SIMILAR CAPSULES, CONTROLLING), NESMRTELNA TETA (CZECH MOVIE – THE CONTROL AND A WAY OF LIBERATION FROM IT), ANDEL S DABLEM V TELE (CZECH MOVIE – CHOICES OF CONTROL BY THE FORCES OF DARKNESS IN VARIOUS LIVES), THE FAIRY TALE ABOUT THE WATER SPRITE (CZECH, THE WATER SPRITE – A PSEUDO-CREATOR – TRAPS PEOPLE IN CUPS), FAIRY TALE ABOUT THE SLEEPING BEAUTY (THE CURSED KINGDOM – PEOPLE WITHOUT MOVE – WITHOUT LIFE.)

Pic. 790 EN angels-heaven.org cosmic-people.com himmels-engel.de angeles-luz.es andele-nebe.cz



ENCAPSULATED SPIRITS (THE SPIRITUAL WORLD) OR SOULS (THE INTERMEDIATE WORLD) OF INDIVIDUALS – PHYSICAL BODIES OF ALMOST ALL (BUT 106 000) EARTH MEN AND HUNDREDS OF BILLIONS OTHER UNDEVELOPED BEINGS IN THE ZONE OF DISPLACEMENT. THE GREEN HAZE IS THE SLIMY INFORMATION SYSTEM OF THE NEGATIVE ENTITIES WHICH THEY USE FOR DISSEMINATION OF THEIR PSEUDO-PROGRAMS ETC. FOR MOST - CA. 92 % - OF EARTH MEN, THERE IS 95 % OF THE DARKNESS AND MERELY 5 % OF THE LIGHT (ILLUSTRATED AS A WHITE ENTRY POINT ON EVERY PROTON CAPSULE). THE GREEN HAZE REACHES UP TO 80 % OF CAPSULE'S HEIGHT. THIS PSEUDO-INFORMATION SYSTEM IS OF STATIC NATURE AND ITS PRIMARY PURPOSE IS TO CONTINUALLY LOAD AND INJECT THE CONTROL PROGRAMS AND PSEUDO-INFORMATION OF PERVERTED REALITY. IN ADDITION, THE CAPSULES ARE CONNECTED THROUGH THAT SYSTEM TO THE INFORMATION-ENERGETIC STRUCTURES OF THE NEGATIVE STATE AND SO EVERYTHING IS CONTROLLED BY THE PSEUDO-CREATORS – THE ACTIVATORS OF THE NEGATIVE STATE. THE ENCAPSULATED INDIVIDUALS, BY ACCEPTING, PROCESSING AND UTILIZING THE CONTROL PROGRAMS AND ILLUSIONS OF THE NEGATIVE STATE FROM THEIR OWN FREE WILL AND BY THEIR OWN CHOICE, SERVE AS ENERGY TRANSFORMERS – THEY SUPPLY ENERGY TO THE NEGATIVE ENTITIES IN FORM OF NEGATIVE EMOTIONS, WHICH THESE INDIVIDUALS EXPERIENCE IN THIS PROCESS. CONSEQUENTLY, BY THIS BEHAVIOR, THEY ENTER THE STATE OF SPIRITUAL GROWTH STAGNATION, AND THEY CONSTANTLY DEGRADE THEIR VIBRATIONS WITH ALL CONSEQUENCES AND OUTCOMES OF SUCH CHOICE.

THE SLIMY INFORMATION SYSTEM IS A SOFT STICKY WEB OF LOTS OF LINKS – FIBRES – A BIT SIMILAR TO HUMAN BRAIN NEURONS. 80 % OF HEIGHT CORRESPONDS TO TODAY'S 80 % OF BURDENED GENES OF PHYSICAL BODIES OF PEOPLE ON PLANET EARTH AND THIS NUMBER IS CONSTANTLY INCREASING. THE PSEUDO-CREATORS' GOAL IS TO LOWER THE 5 % OF THE TRUE INFORMATION PEOPLE HAVE TODAY DOWN TO A MINIMUM (1 %) BY MEANS OF THE UPCOMING CHIP CONTROL SYSTEM.

SEE MESSAGES 819 - 847 – THE SPIRITUAL PATH FROM BOOK III. TALKS WITH TEACHINGS FROM MY COSMIC FRIENDS, AND ALSO MESSAGES 1561, 1578, 1579, 1684 - 1688, 1694 - 1699, 1702, 1709 - 1710, 1713 - 1714, 1717. SEE ALSO BOOKS OF THE NEW REVELATION (THE KEY MATERIAL). THIS PICTURE IS A CONTINUATION OF PICTURES 782 - 792, 467, 678 - 693, 765 - 772, 741, 539 - 548. IT IS STRONGLY RECOMMENDED TO STUDY THESE SOURCES FIRST.

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ASHTAR'S MEDITATION

Message 270. (Received by A.K., 22 years old) **Place: Terchova, April 19, 1998.**

Written under **Ashtar's** kind guidance.

"Sit down in a pleasant, relaxing position. Don't cross hands or legs. Close your eyes. Focus on your breath. It's calm and regular. Now visualize the following:

You are sitting at a sacred mountaintop.

You are sitting and meditating.

With every breath you take, a stream of glittering Light from the Universe flows into your body through the head.

You feel the Light spreading inside you until it permeates all your being.

Now you are beginning to gradually realize the three stages:

- 1. I am in Light – all around me is just the bright Light.**
- 2. Light is in me – all my within is filled by the bright Light.**
- 3. I am the Light – I am blending with the Light.**

You are experiencing an absolute feeling of Oneness and Harmony.

You are feeling you are Love.

All around you is just Light and Love.

You are at home here.

You are part of all and all is part of you.

Realize that you are a magnificent loving being full of Light.

God is Love.

You are Love.

Feel and experience this state of absolute unity for a while.

Then begin to slowly return to the room.

Begin to realize the limits of your body.

Inside every being is the Light of Love.

Seek to see everybody and everything around you as a part of this unique essence.

We all are part of one whole – the Selfless Love.

You are Love, Harmony, Peace.

AND IT IS SO !

Now end your meditation and return slowly to awaked consciousness.

Seek to see Love as a part of all always and everywhere in your life."

**www.universe-people.com
www.ashtar-sheran.org**



ACCEPTANCE

"Deep inside myself I know that whatever I do is acceptable for me. I know I have a CHOICE to adapt whenever required. Discovering that others have their own way of thinking and acting induces optimism within me. This makes my life dynamic and diversified. It's exciting to listen to so many opinions. This gives me a CHOICE to re-evaluate or change my view and to respect it.

ENTHUSIASM

I feel like a glass of champagne. My life bubbles and sparkles. I can sing and dance out of joy of living. Just imagine that I have decided to be a part of this magnificent creation. Isn't it marvelous to feel that I have a body, mind and soul? I'm in love with life; my heart palpitates in joy twice so fast. It rejoices in every single day that is given to me.

ATTUNEMENT

I swim with the tide of my roads of life. I create waves of myself in the river as well as in its source. My exterior knows of my interior. My pores open and close themselves in harmony with my emotions. My senses don't fool me or keep me back from what happens outside. This way I can harmonize my life. My exterior doesn't have to lie about my interior, for they are in harmony.

UNITY

I am the seed, plant, root and earth together. I am the soul, mind, body and heart together. I am my own breath. I am my own emotions and mind together. I am my own earth and heaven together. I am a complete, integral whole, worked up to the minutest details. I know how I do; I know there is only one like me – myself.

WILLINGNESS

I am willing to adapt. As a result, my body and mind are more adaptive and are able to better cope with unpredictable situations. I know I always have a free CHOICE to either adapt myself to a given situation or walk out of it. On the other hand, this allows me to learn something new and I become more aware of people's differences. This gives me courage to be different and still belong to them. I am an indispensable part of the ever-changing model.

SELF-CONFIDENCE

I face the life proud and upright. I have my own thoughts, ideas. I know they are counting on me and so I fearlessly share with others what I have in my heart and soul. I have courage to risk; to bear responsibility for my being an independent human being. I have power to realize my ideas while not hurting anyone. Without scruples, I receive compliments that I deserve. With gratitude, I accept help that I need of others to realize myself.

INTEREST

I seem to come always in time to a place where something is happening. Therefore, I always have an opportunity to add something of value to it. And I know it will be appreciated. It is fascinating to know I belong somewhere. Even in the most complex situations I can see something that I can learn and use for my own development. I know when I am needed and when not. I am developing a fine sense for my own need and needs of others. And I am always more and more in connection with this sense.

EQUALITY

Life fits me like a glove. My body moves in harmony with my thoughts. The body and mind are equivalent. I can fully trust myself, for my feelings won't deceive me. I needn't hide or pretend anything. I am who I am – I am equal.

CHOICE

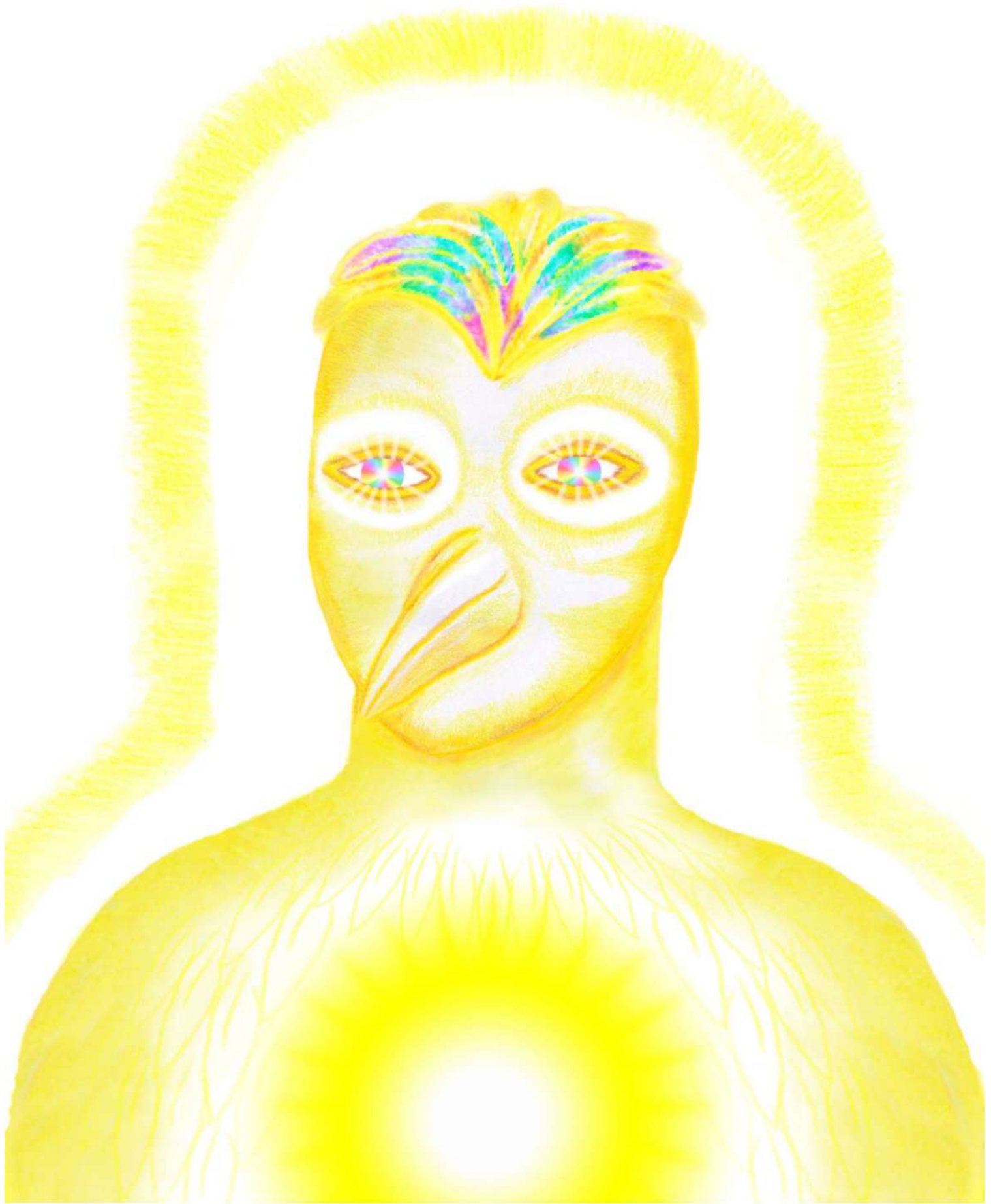
I have a choice. I can make a free choice in whatever life situation without anything controlling me. I am a free man and I feel it through everything that I have at my disposal and that is allowed to me thanks to the beloved **Creator**. I impose nothing on others; I respect their free choice, too."





The formation of "**Divine Trinity**" is recommended.

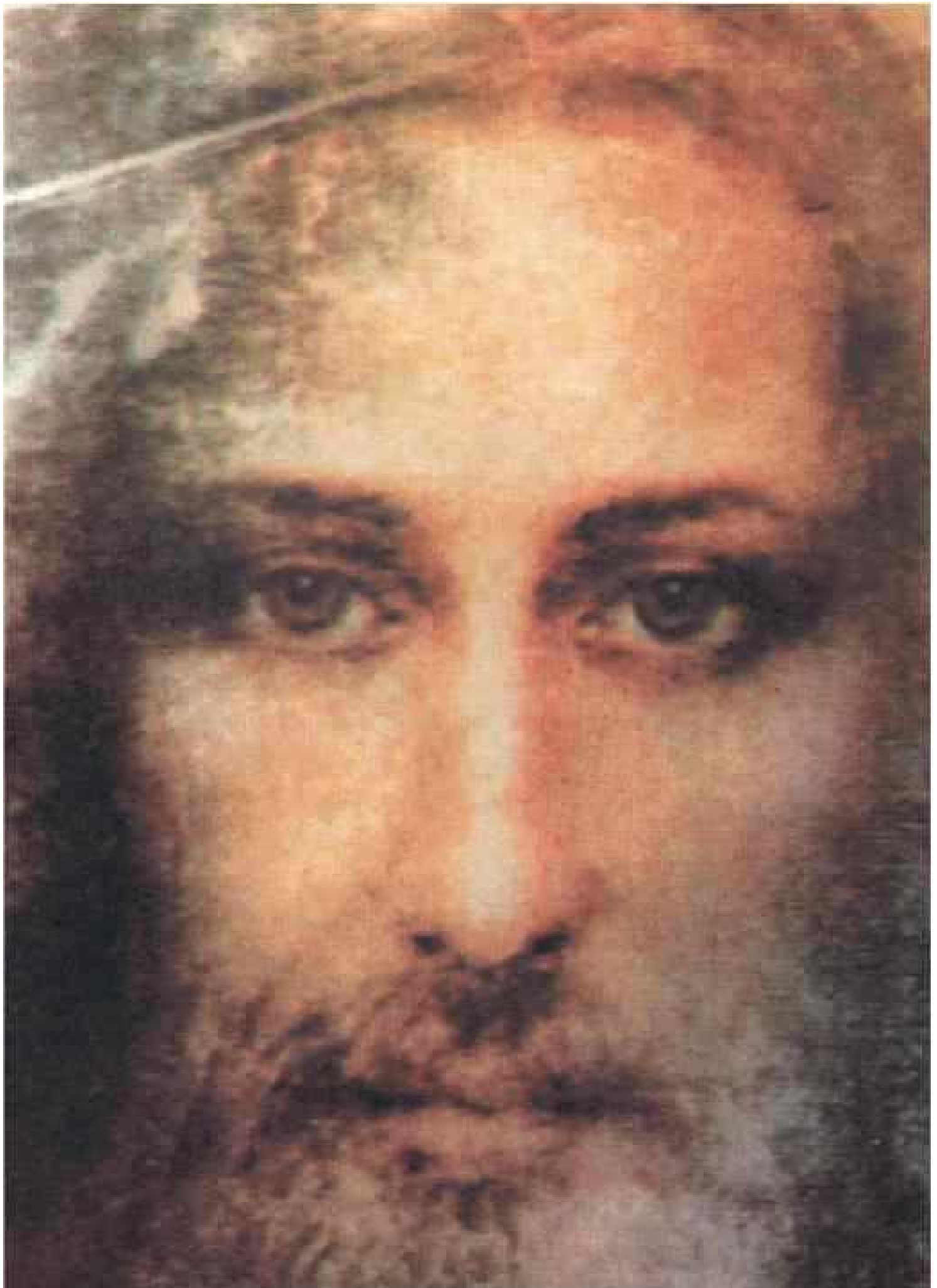
It acts as an altar, help from all spirits,
protection from negative energies. Suitable for meditations.



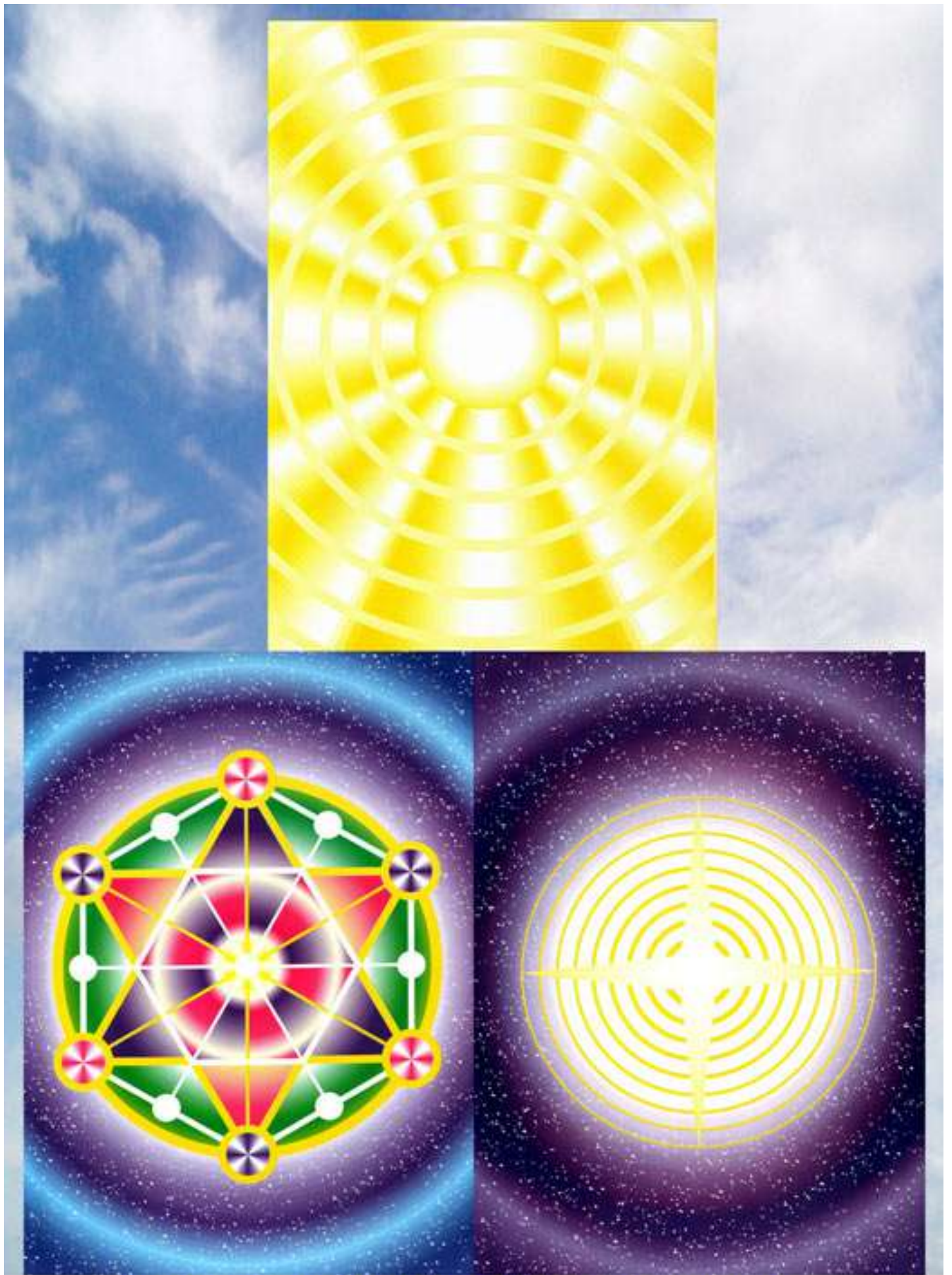
GORLOJ

The oldest and the most revered member of The High Council of our Galaxy numbering ca. 5 million civilizations of Heavenly Angels of the Forces of Light. The entire being incl. his spiritual heart radiates pure love. The High Council is an advisory authority; Angels in Heaven can, but also needn't, agree with its recommendations. (Painted in 2007.)

Pic. 2506 EN angels-light.org ashtar-sheran.org angeles-luz.es angelo-luce.it



Jesus Christ — incarnation of Orthon, the spiritual guarantor of our Galaxy.
The appearance from the Turin canvas is very good, He had blue eyes.



The formation of "**Divine Trinity**" is recommended.

It acts as an altar, help from all spirits,
protection from negative energies. Suitable for meditations.

Pic. 338 X EN www.angels-light.org www.universe-people.com

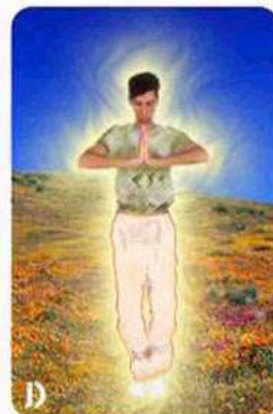
PŘEVIBROVÁNÍ FYZICKÉHO TĚLA ČLOVĚKA ZE 3. DO 5. DIMENZE PO SPLNĚNÍ SVĚTELNÉHO POSLÁNÍ

3. DIMENZE PLANETY ZEMĚ

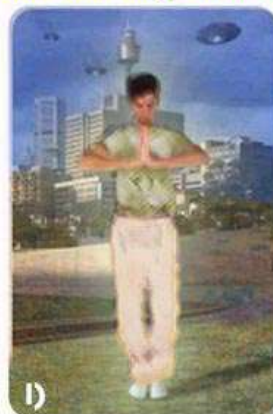
Živé lidské tělo zvyšuje frekvenci kmitání - vibrací atomů díky zvyšování láskyplnosti a tak se může definitivně přemístit do 5. dimenze planety Země.



5. DIMENZE PLANETY ZEMĚ



Přirozené převibrování živého fyzického těla ze 3. do 5. dimenze planety Země očima transformujícího se člověka



Obr. 1050

www.vesmirmi-lide.cz

www.andele-svetla.cz

Předávejte dál !

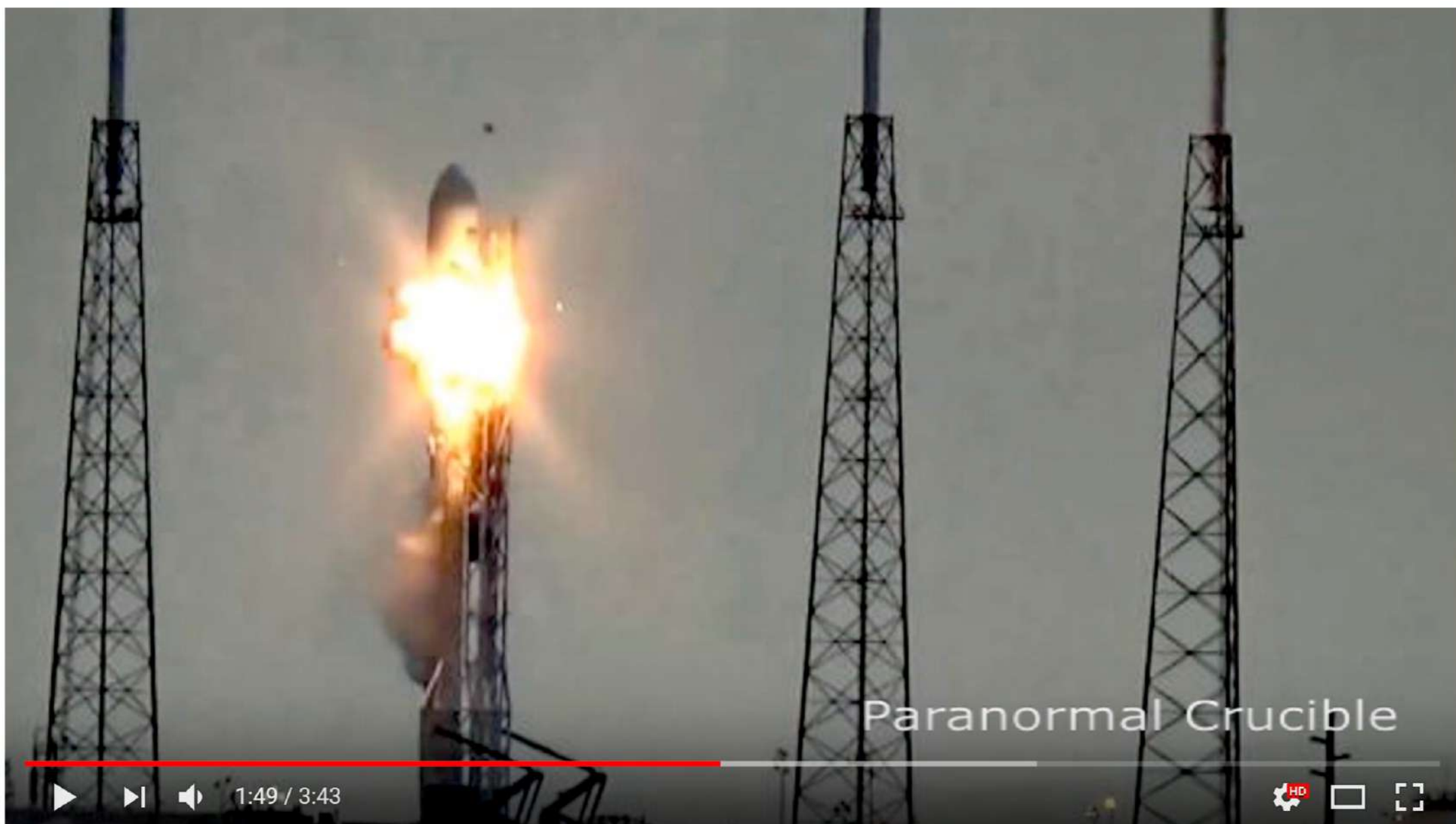


NEUTRALIZACE ATOMOVÉ RAKETY - Vesmírní lidé
Sil světla mají celý lidský atomový arzenál pod kontrolou od počátku existence těchto atomových raket - od 50. let 20. století. První 2 tragické výbuchy v Hirošimě a Nagasaki v Japonsku ze strany USA r. 1945 byly ponechány lidstvu k VAROVÁNÍ, CO TYTO ZBRANĚ V RUKOU LIDÍ MOHOU ZPŮSOBIT. Od té doby byly při každém pokusu k použití NEUTRALIZOVÁNY - přečíslovány cíle v hlavici při nasazení či nefunkčnost při startu či letu. Kdyby tuto práci Vesmírní lidé nedělali, lidstvo by zde dávno NEBYLO. Velitelem těchto operací je SOLTEC. Na obr. fotomontáž události ze srpna 2001 na podzemní strategické základně USA.

Obr. 1048 www.vesmirni-lide.cz



UFO Destroys SpaceX Rocket On Launch Pad?



Paranormal Crucible

▶ ▶| 🔊 1:49 / 3:43

⚙️ HD 📺 🗑️



FOTOGRAFIE VESMÍRNÉ LODI AŠTAROVY FLOTILY – ANDĚLŮ NEBE PROVEDENÁ V POLSKU 2006.
ANDĚLÉ NÁM VZKAZUJÍ: MÁME VÁS RÁDI A POMÁHÁME VÁM.

Obr. 1854

www.andele-svetla.cz

www.vesmirni-lide.cz

www.angels-light.org

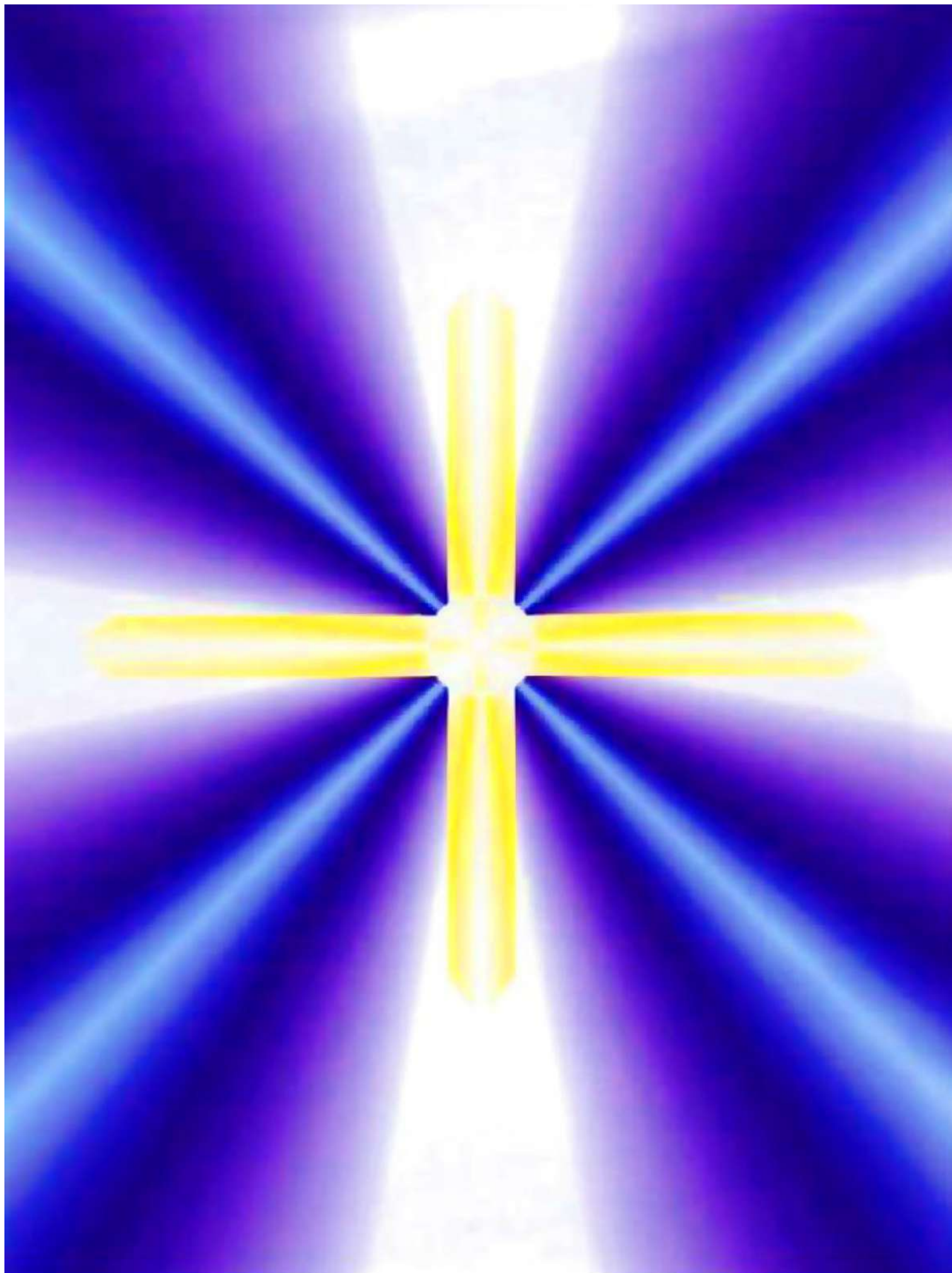


Obr. 1212

Kristovo vědomí
www.vesmirni-lide.cz



Symbol of planet Erra of Pleiades

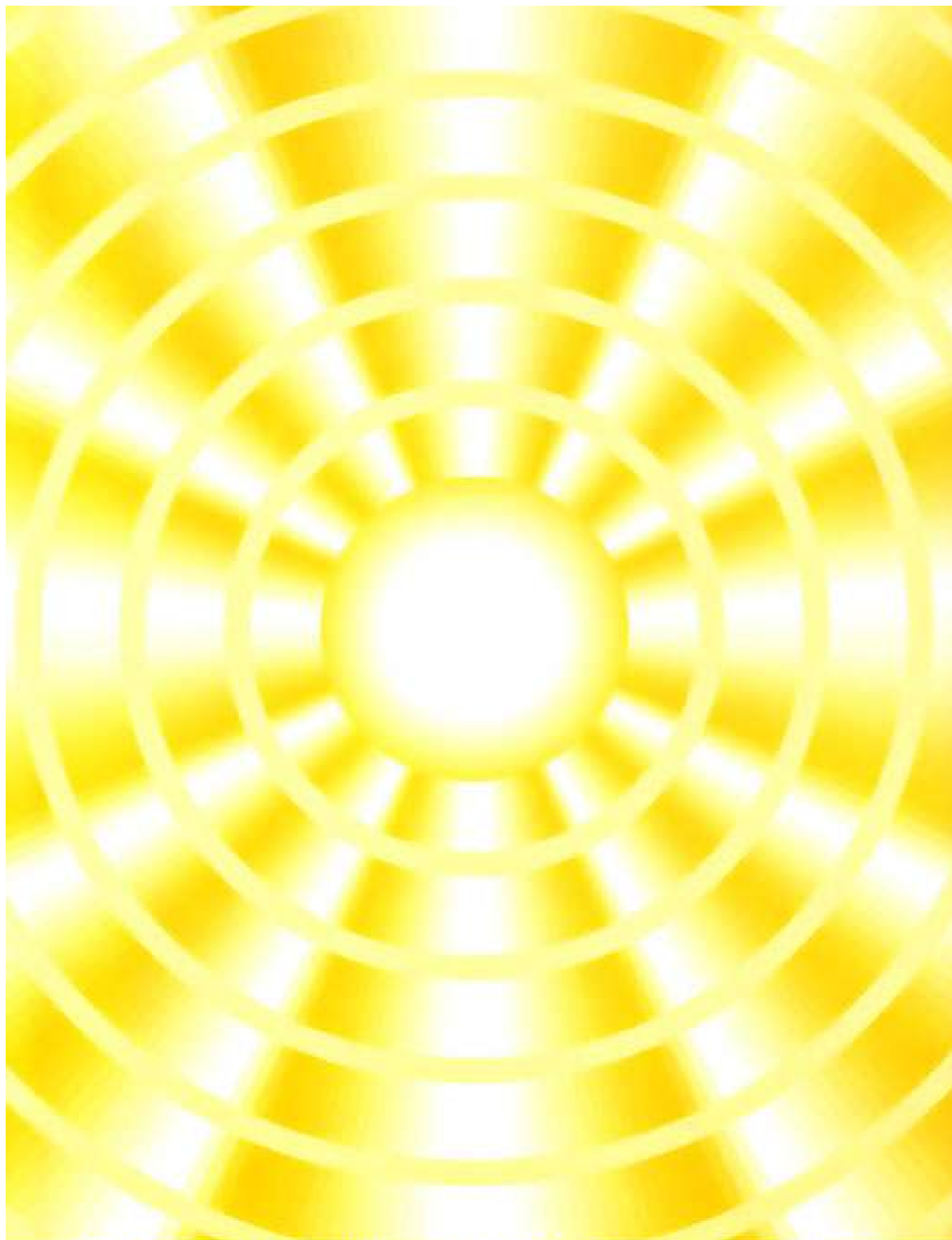


God's cross - Divine protection, love and wisdom

Pic. 101 EN

www.angels-light.org

www.universe-people.com



The Prime Creator of all Universes and the Creator of our Universe.

The light, love, all good, pure and perfect.

Pic. 102 X EN

www.angels-light.org

www.universe-people.com



Our beloved Creator of our Universe

Pic. 103 X EN

www.angels-light.org

www.universe-people.com



Holy Spirit

Creative activity of the Prime Creator of all and everything

Pic. 104 X EN

www.angels-light.org

www.universe-people.com



The High Council in Petala and help for pregnant women.

Pic. 105 X EN

www.angels-heaven.org

www.cosmic-people.com

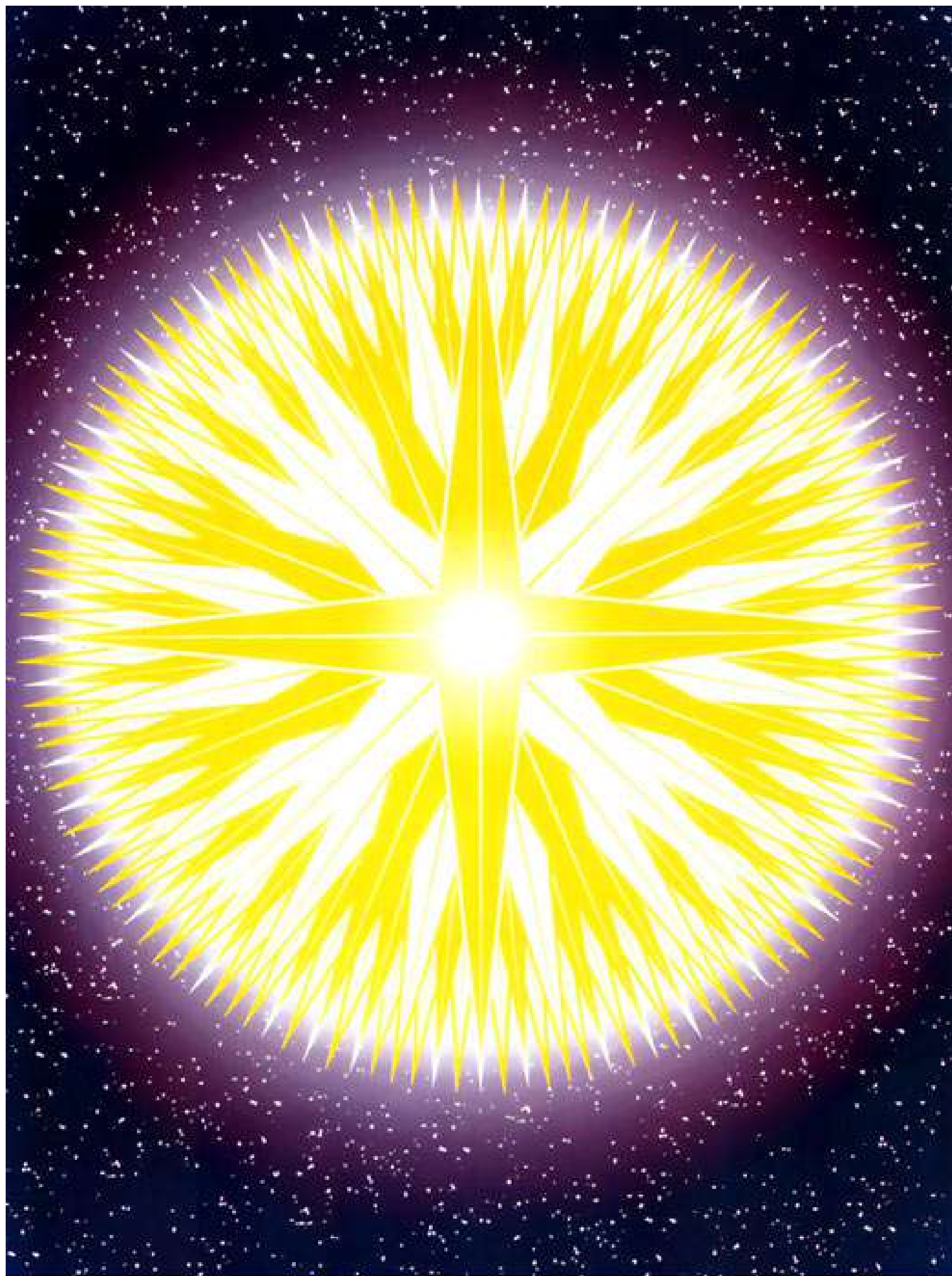


ORTHON (or Jesus Christ) - the spiritual guarantor of our galaxy.

Pic. 106 X EN

www.angels-heaven.org

www.cosmic-people.com

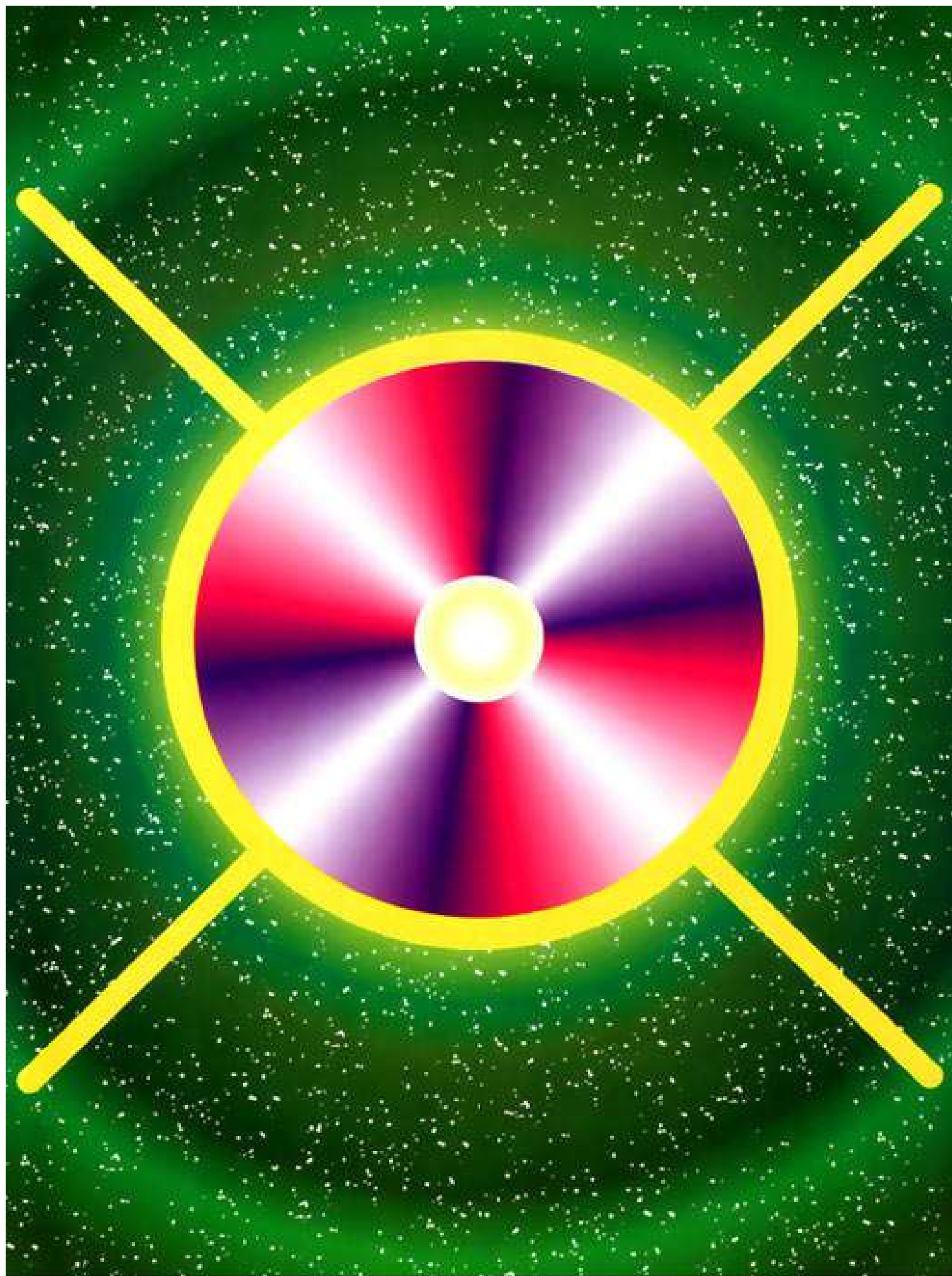


Radiation of spiritual energy

Pic. 107 X EN

www.angels-heaven.org

www.cosmic-people.com



Love



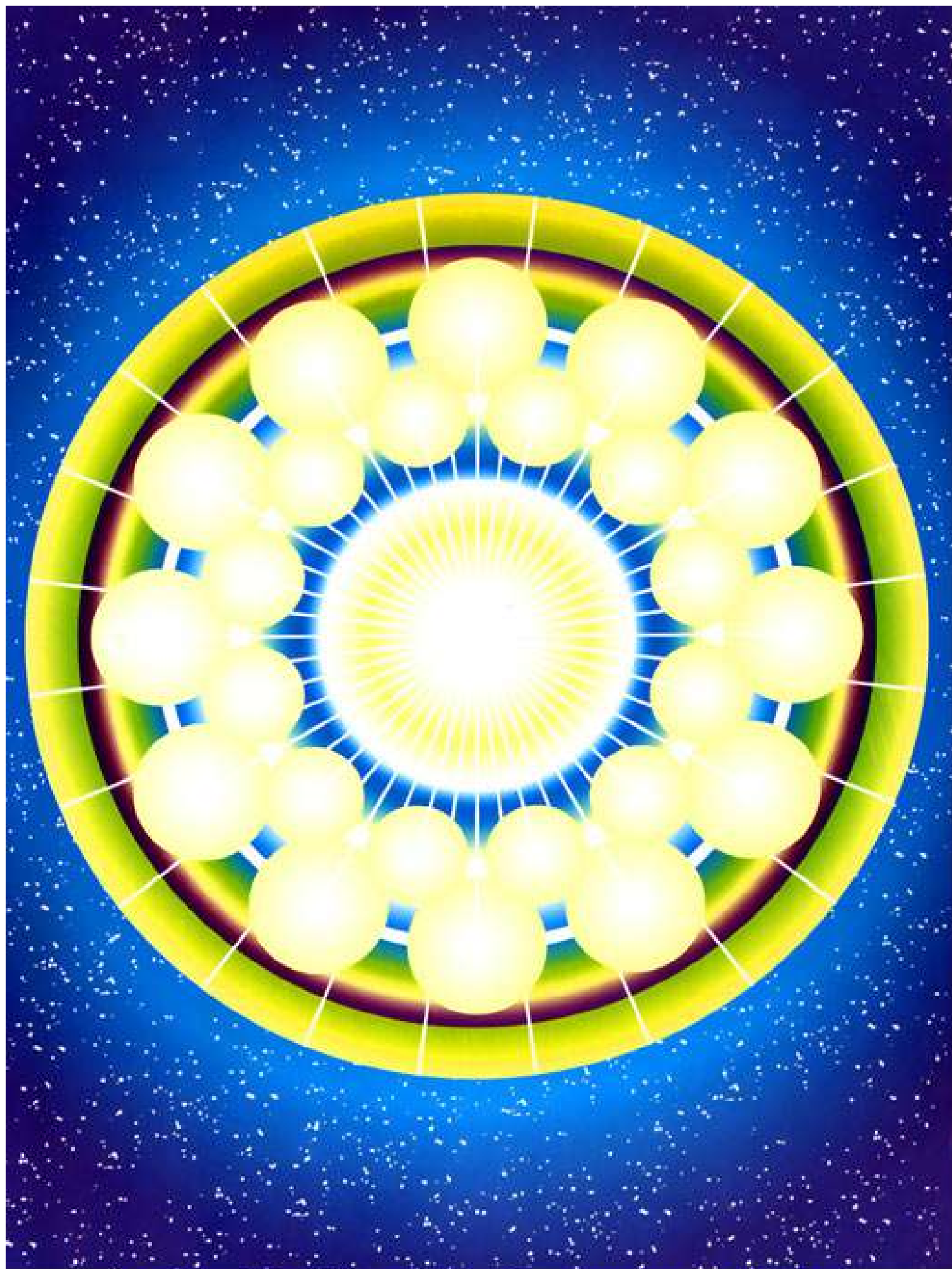
Stimulation of opening of the 4th chakra

- chakra of feel and love - it is located in the middle of the chest

Pic. 109 X EN

www.angels-heaven.org

www.cosmic-people.com

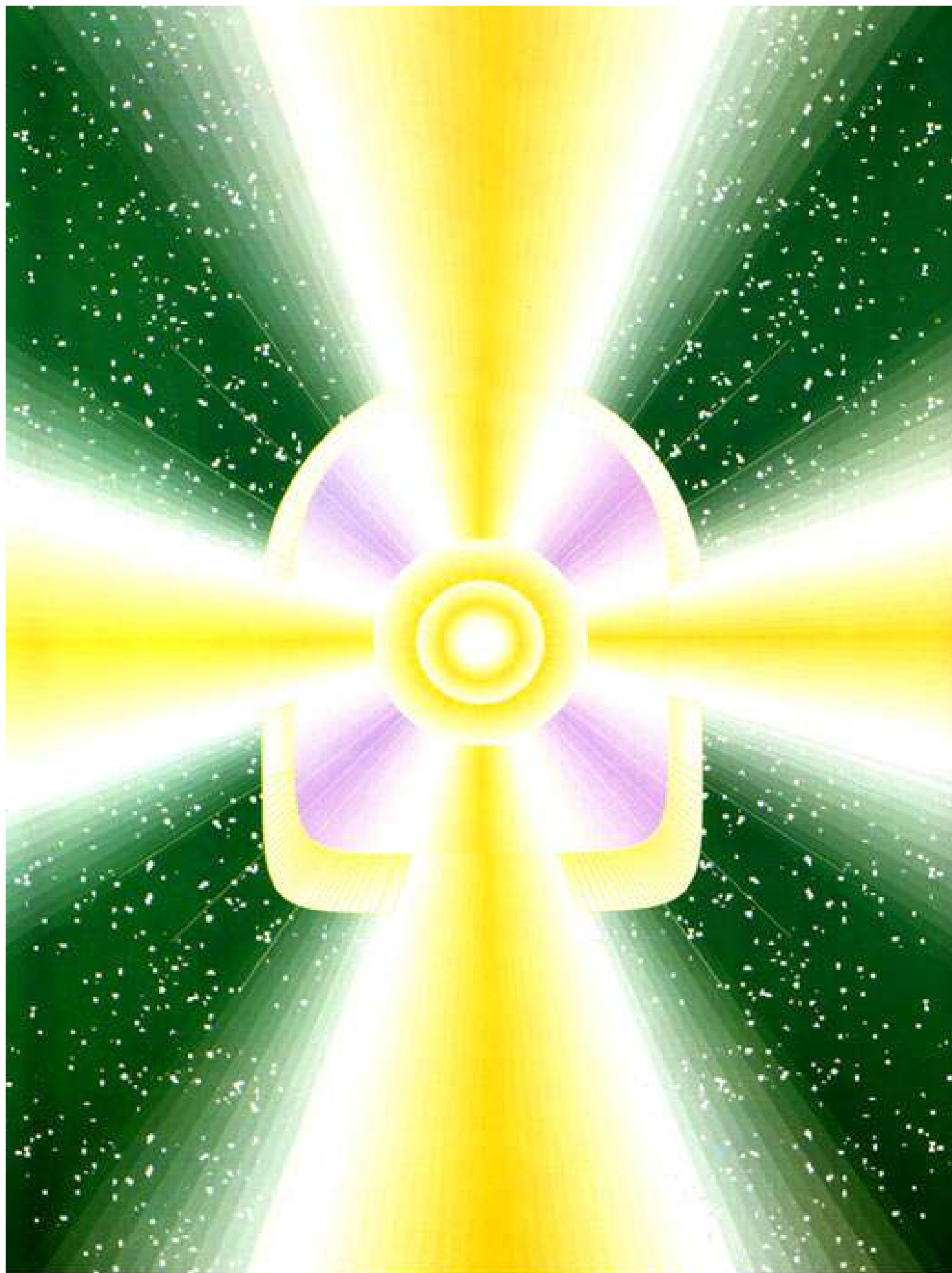


Charging up with positive energy - watch for 10 minutes

Pic. 110 X EN

www.angels-light.org

www.cosmic-people.com



Creator's love and grace for us, people of planet Earth

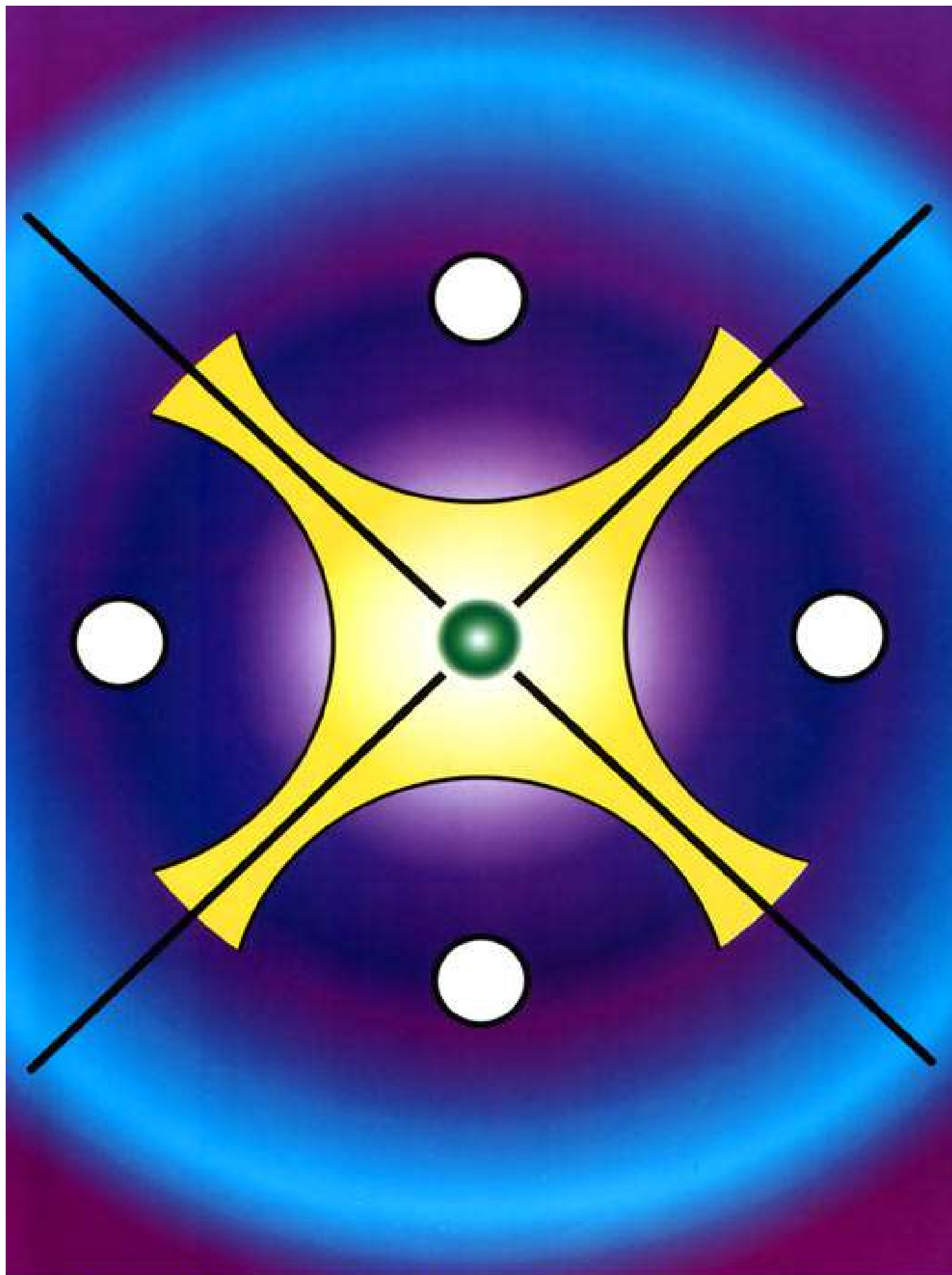
Pic. 111 X EN

www.angels-heaven.org

www.cosmic-people.com



The Golden Gate - through which our Creator's grace and love
flow to help planet Earth.



Protection from negative and coarse vibrations from surroundings.
Pic. 113 X EN www.angels-heaven.org www.angels-light.org

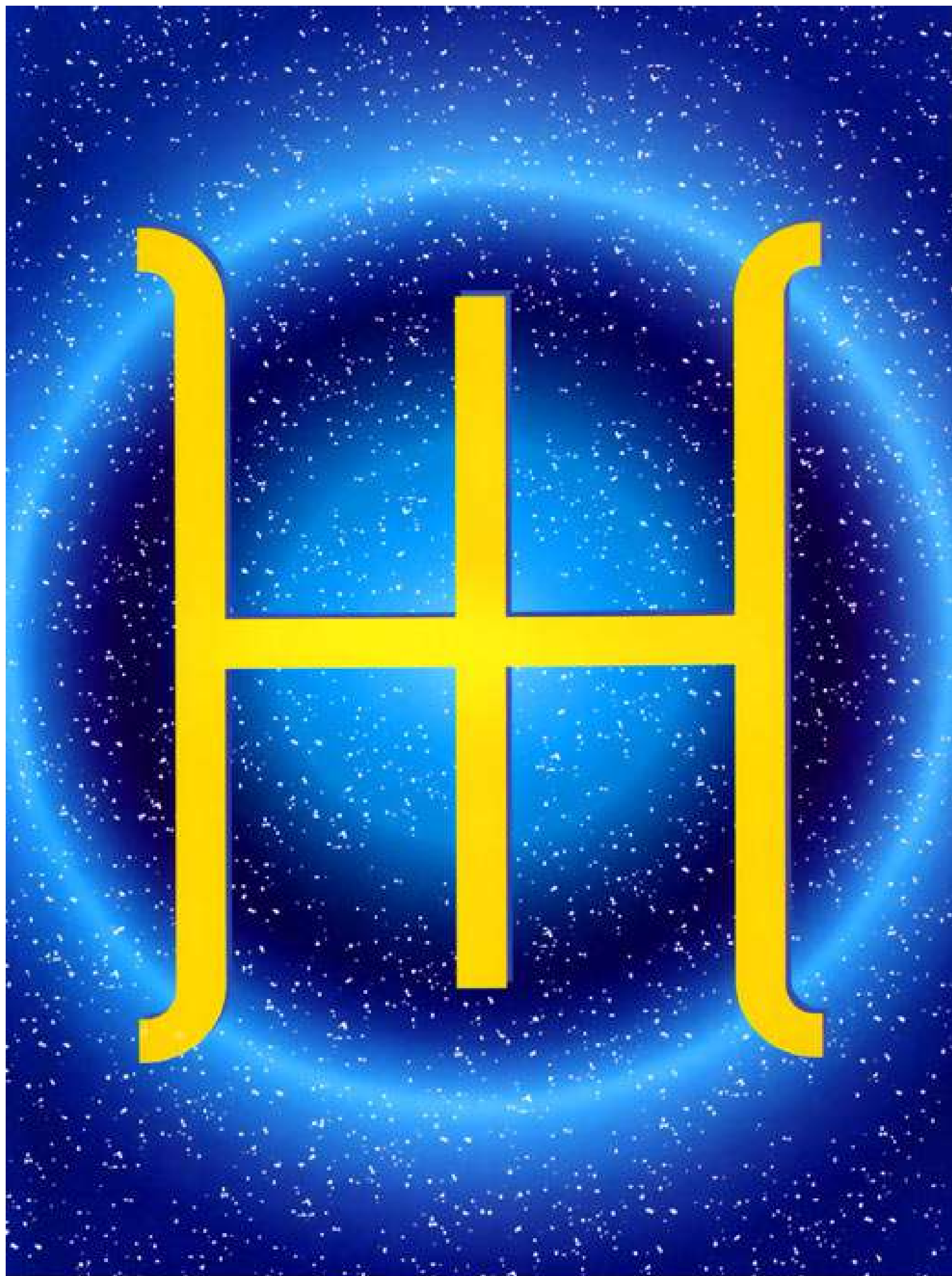


Symbol of Pleiades stellar system

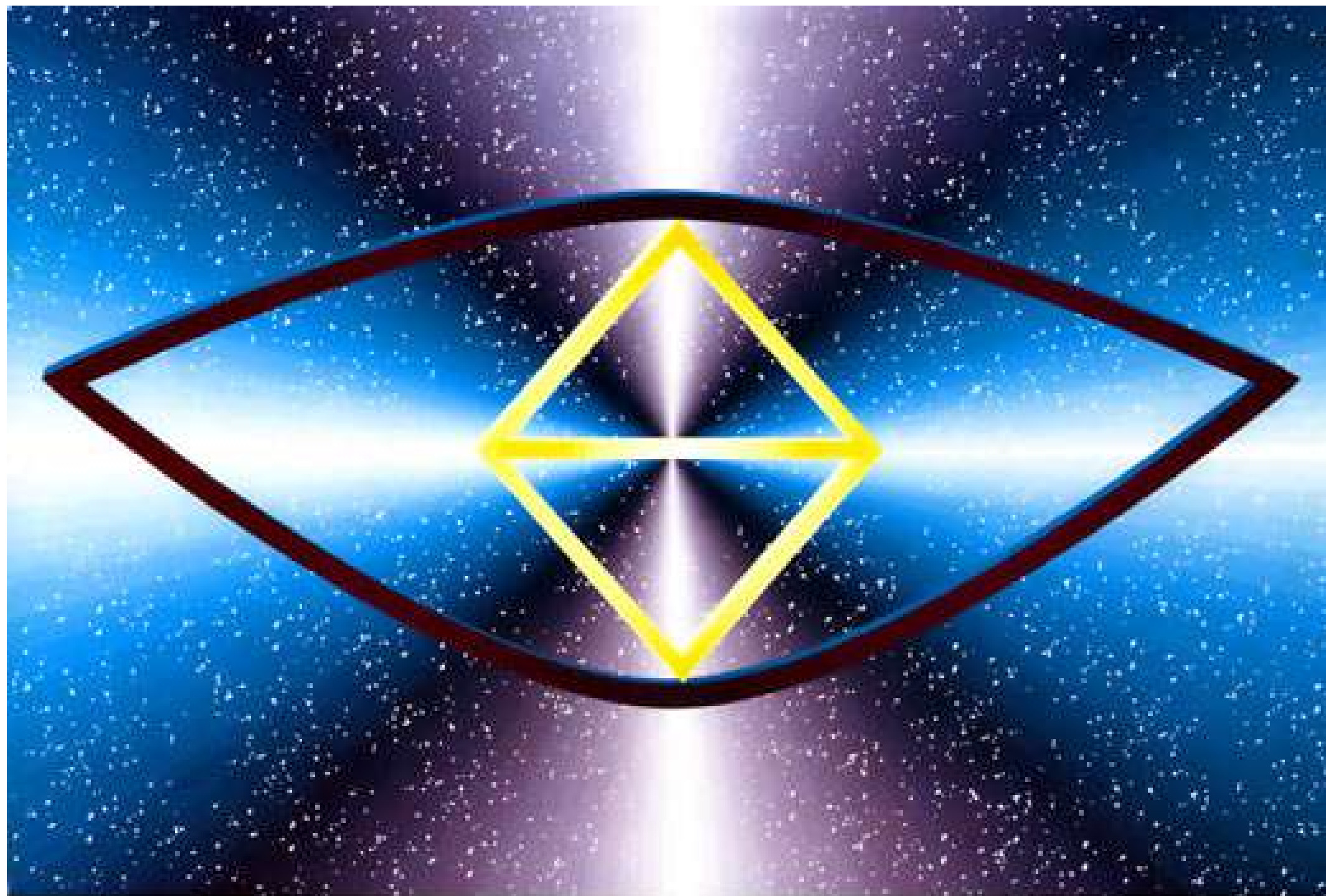
Pic. 115 X EN

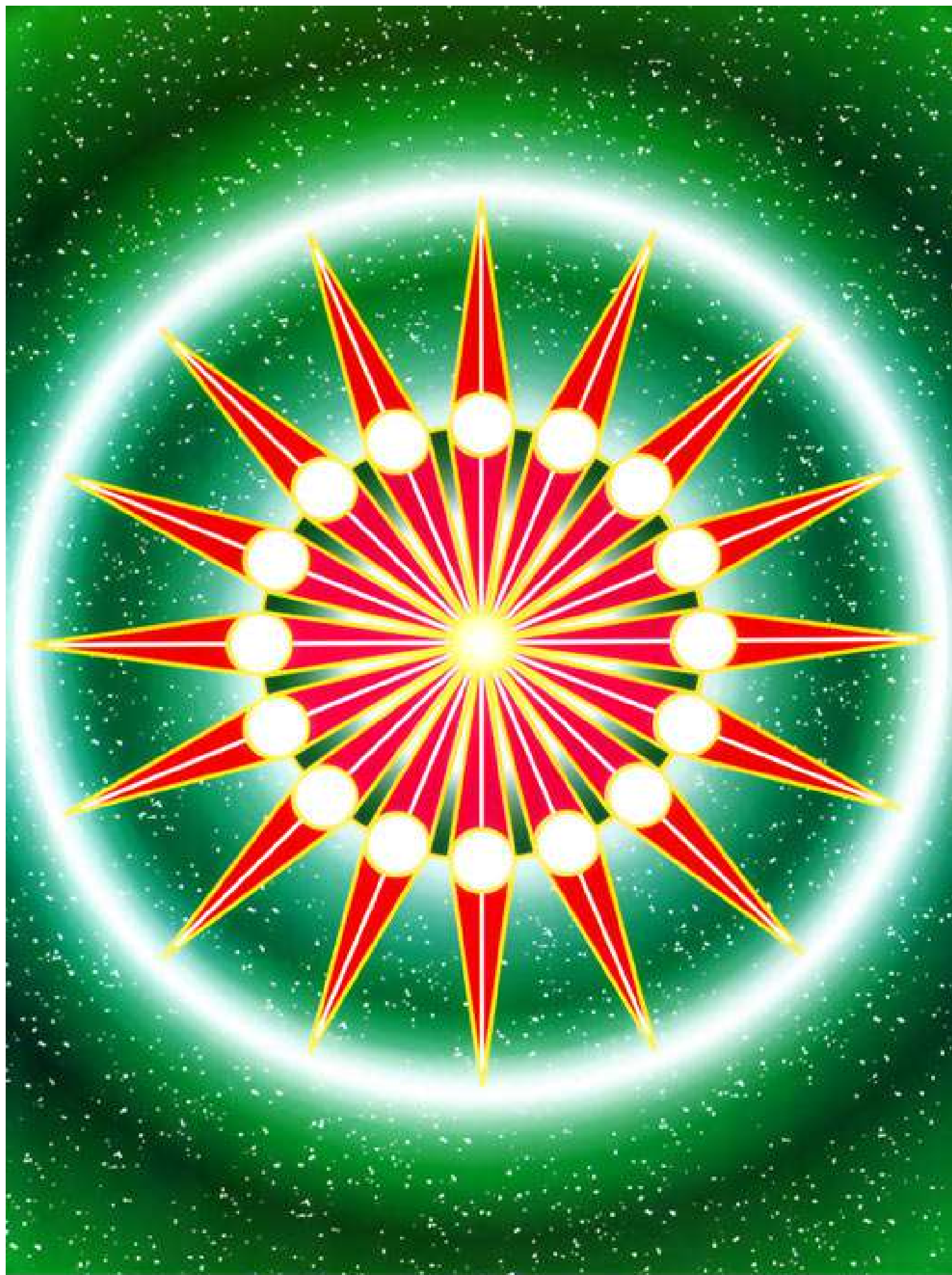
www.angels-heaven.org

www.ashtar-sheran.org



Symbol of planet Ummo





Uplifting physical body with energy

Pic. 119 X EN

www.angels-heaven.org

www.cosmic-people.com

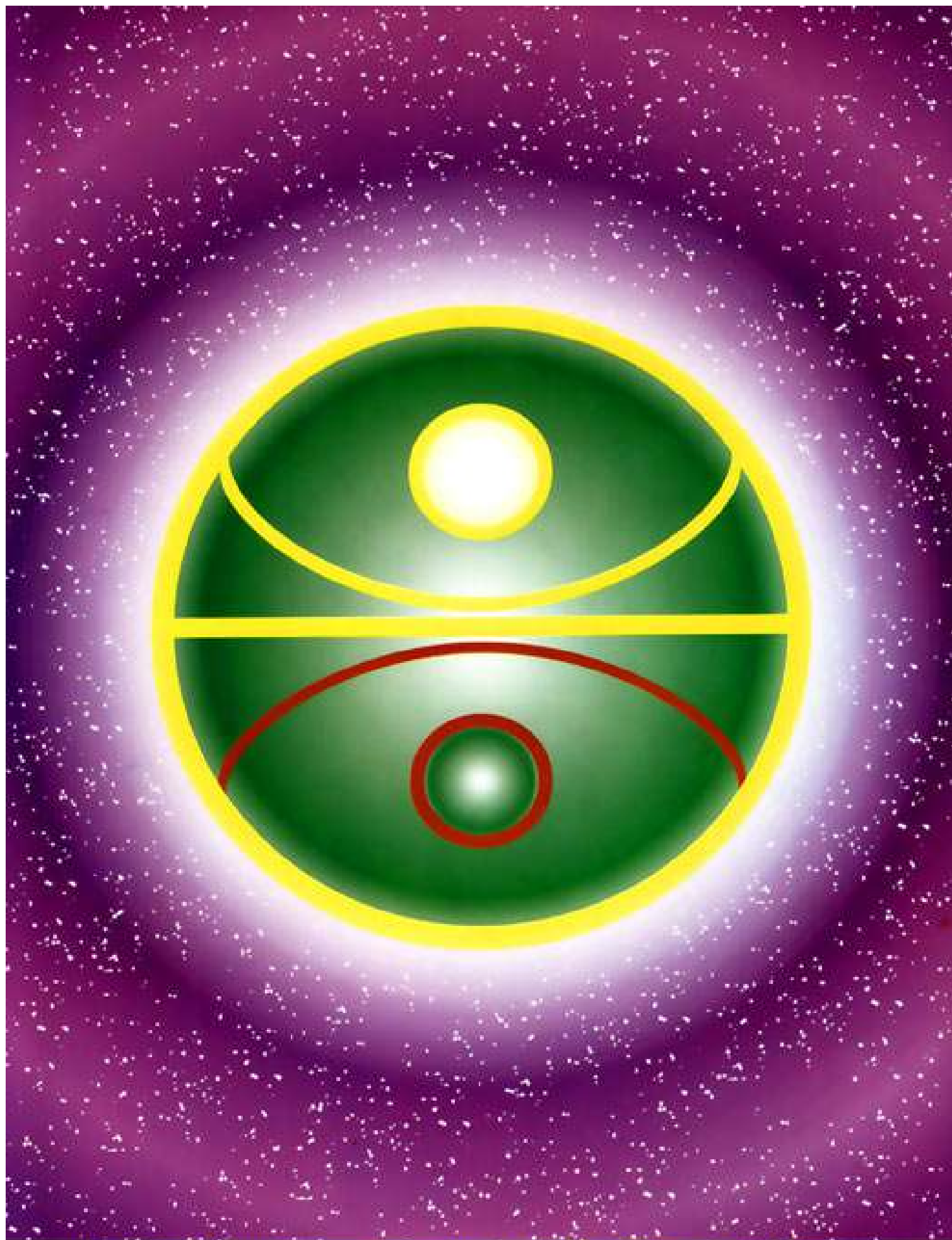
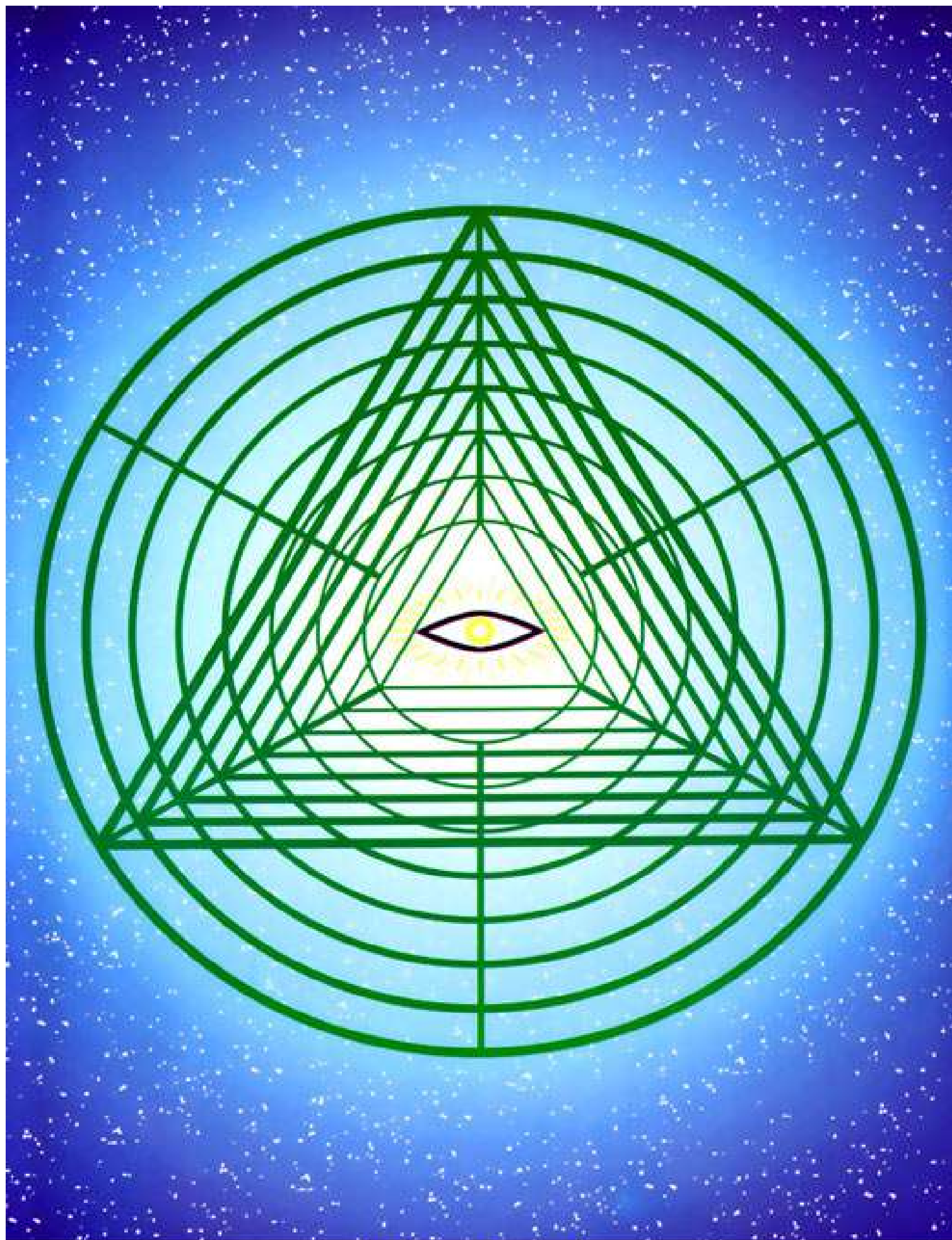


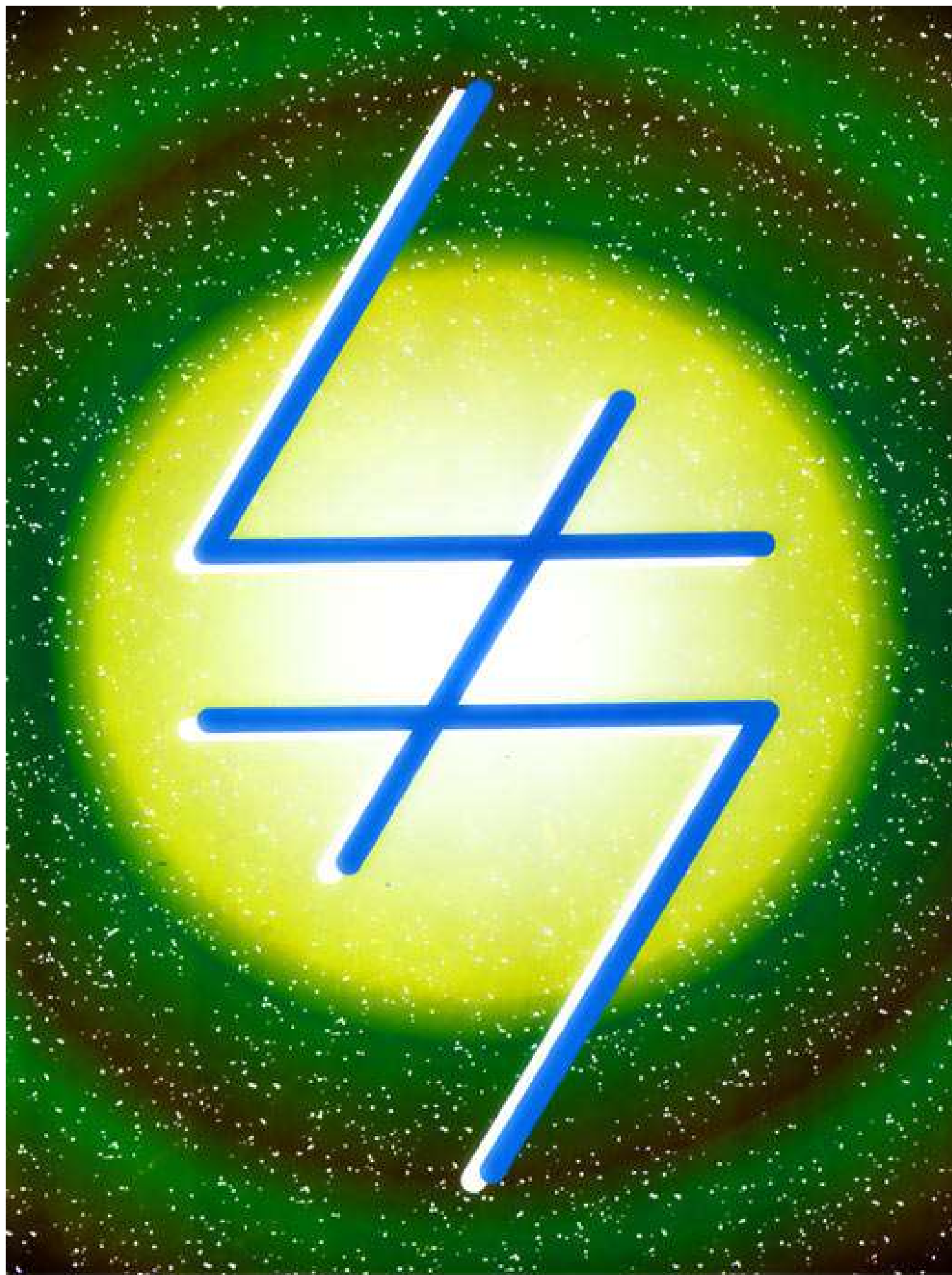
Illustration of the entire hierarchy of our Creator and his Universe
(all dimensions and worlds) up to the Prime Creator



Weather forecast,

we ask for a vision of a concrete day whose weather we want to know

Pic. 320 X EN angels-light.org cosmic-people.com andjeli-neba.com.hr



Protection from negative energies and coarse vibrations from surroundings
Pic. 322 X EN angels-heaven.org universe-people.com angeli-rajá.eu



Purifying "AURA" from negative energies

Pic. 323 X EN

angels-light.org

universe-people.com

engelen-hemel.nl



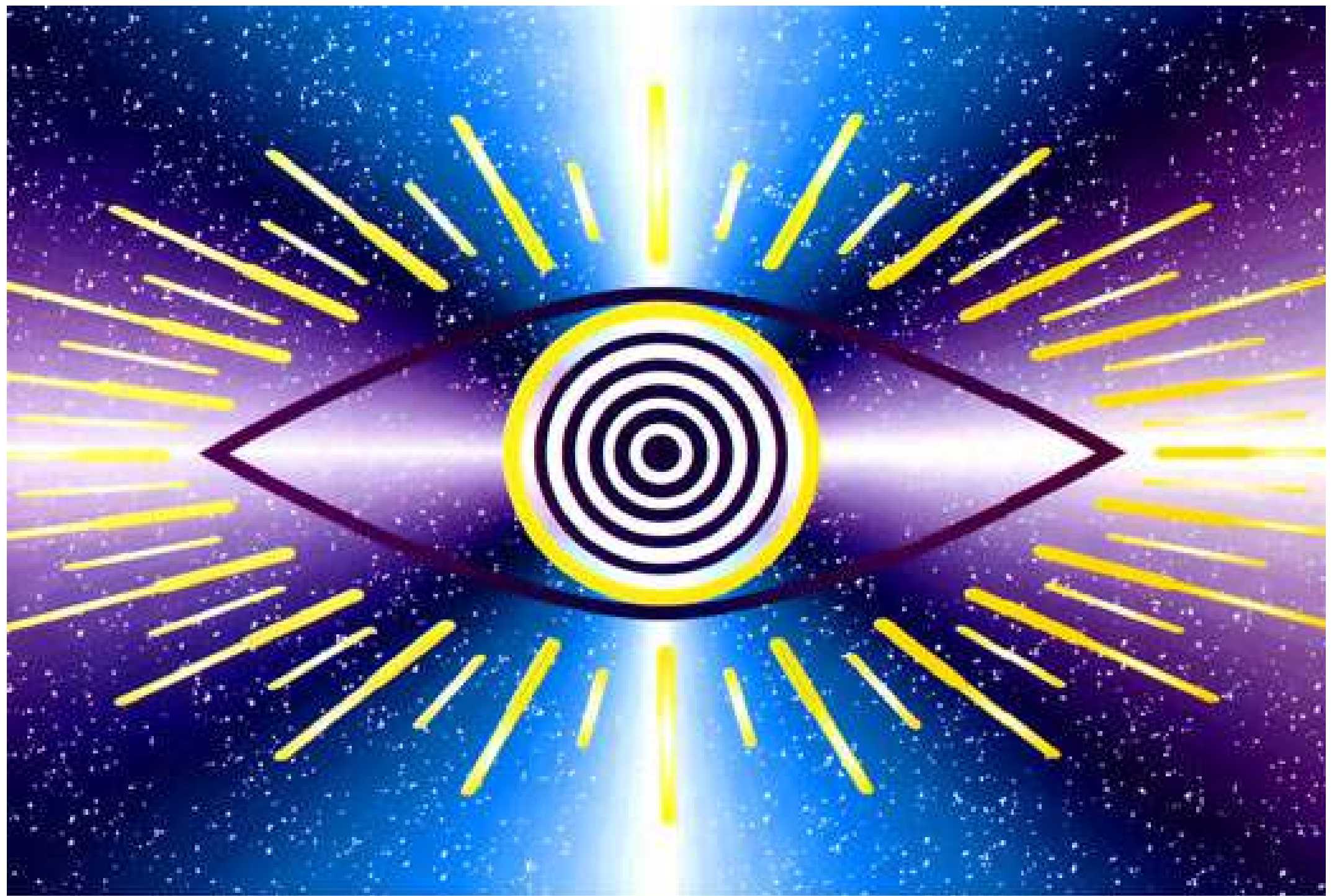
Friendship

Pic. 324 X EN

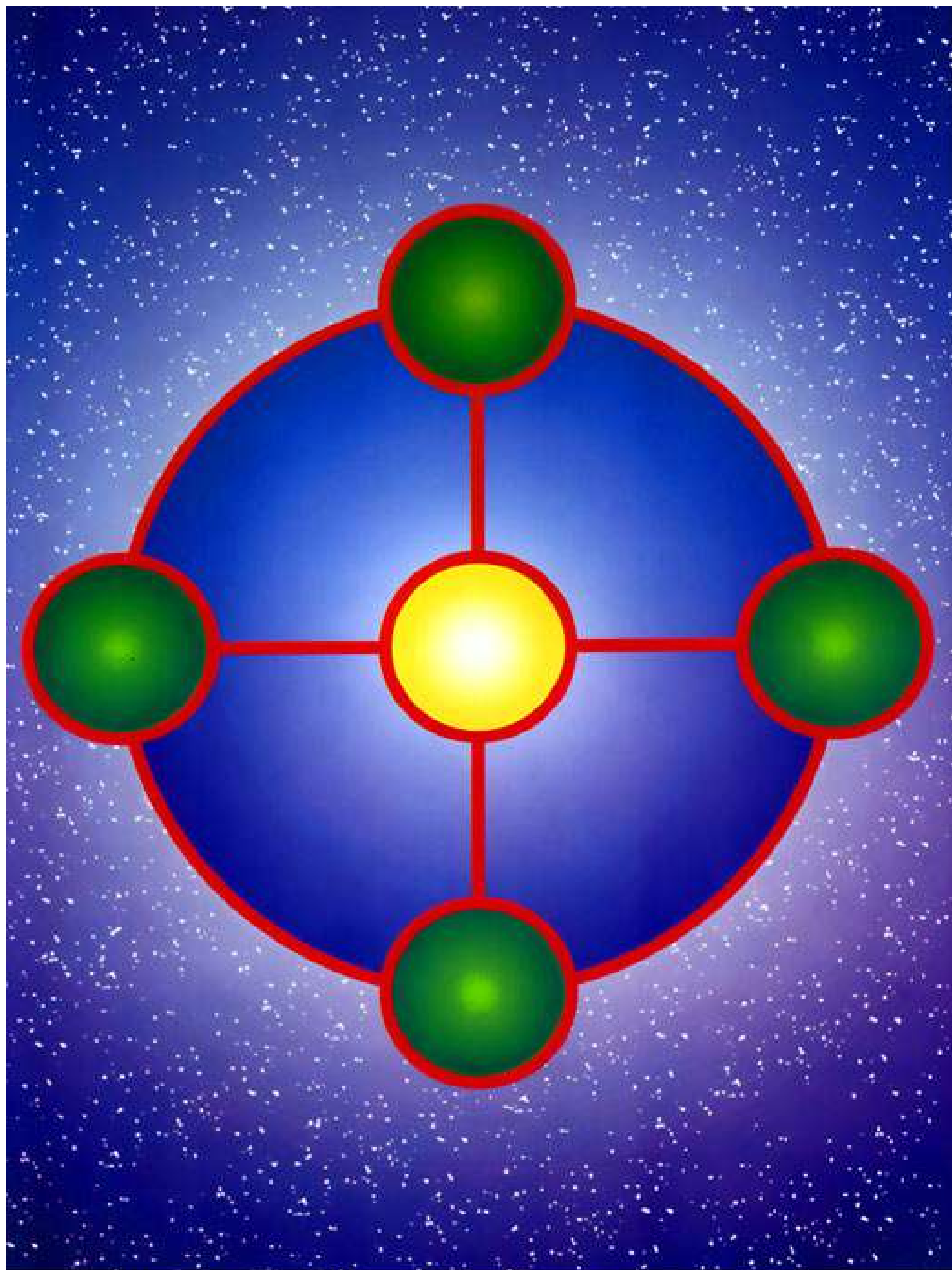
ashtar-sheran.org

universe-people.com

anjos-ceu.eu



Pic. 325 X EN Stimulation of opening the 3rd eye (or the 6th chakra – located between the eyebrows) angels-heaven.org



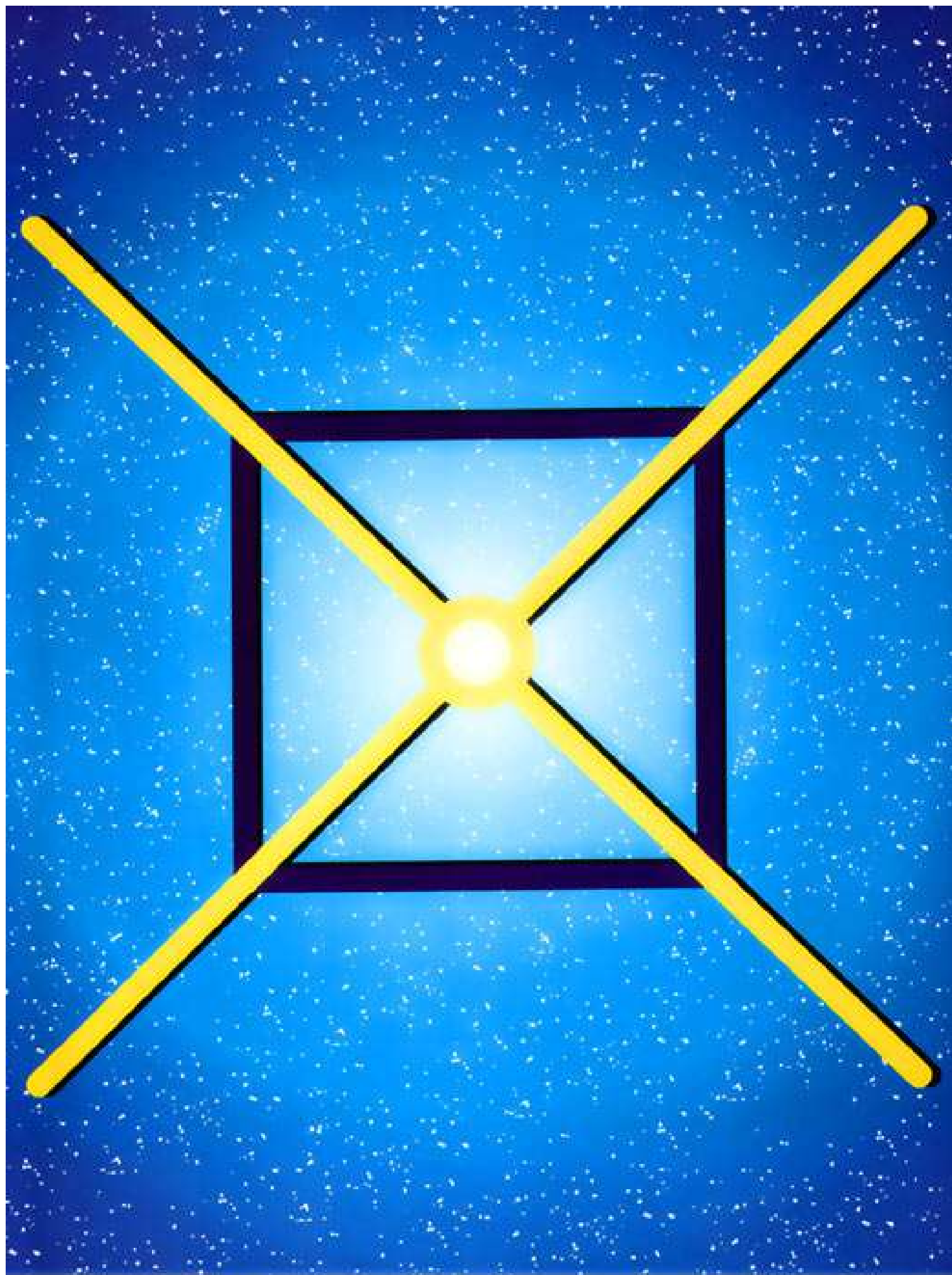
Healing **bronchitis and bronchi** – watch for 10 minutes

Pic. 326 X EN

angels-light.org

cosmic-people.com

andele-svetla.cz



Healing **urinary track** – watch for 10 minutes

Pic. 327 X EN angels-heaven.org cosmic-people.com andele-nebe.cz



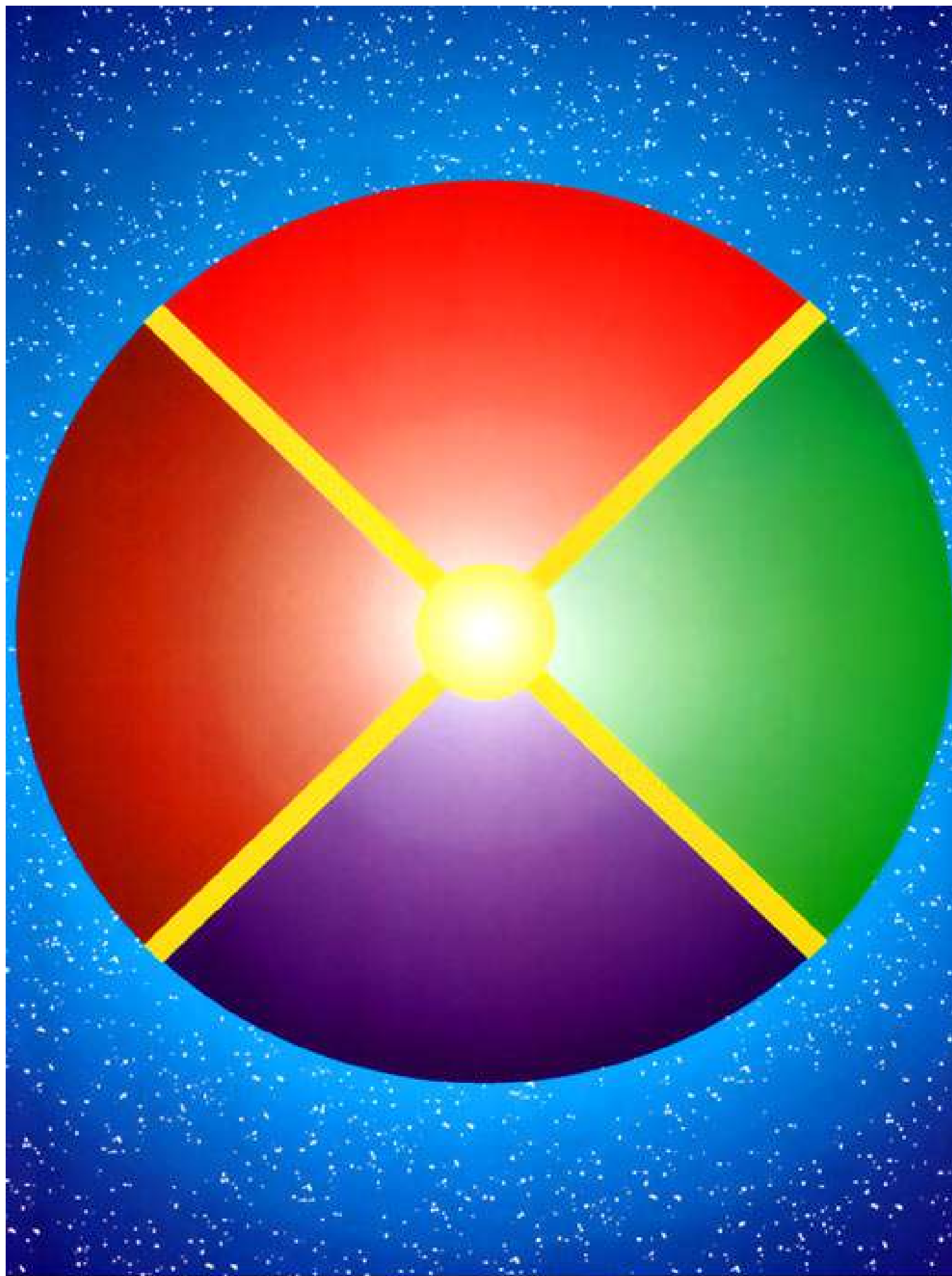
Healing **stomach** – watch for 15 minutes

Pic. 328 X EN

angels-light.org

universe-people.com

feny-angyalai.hu



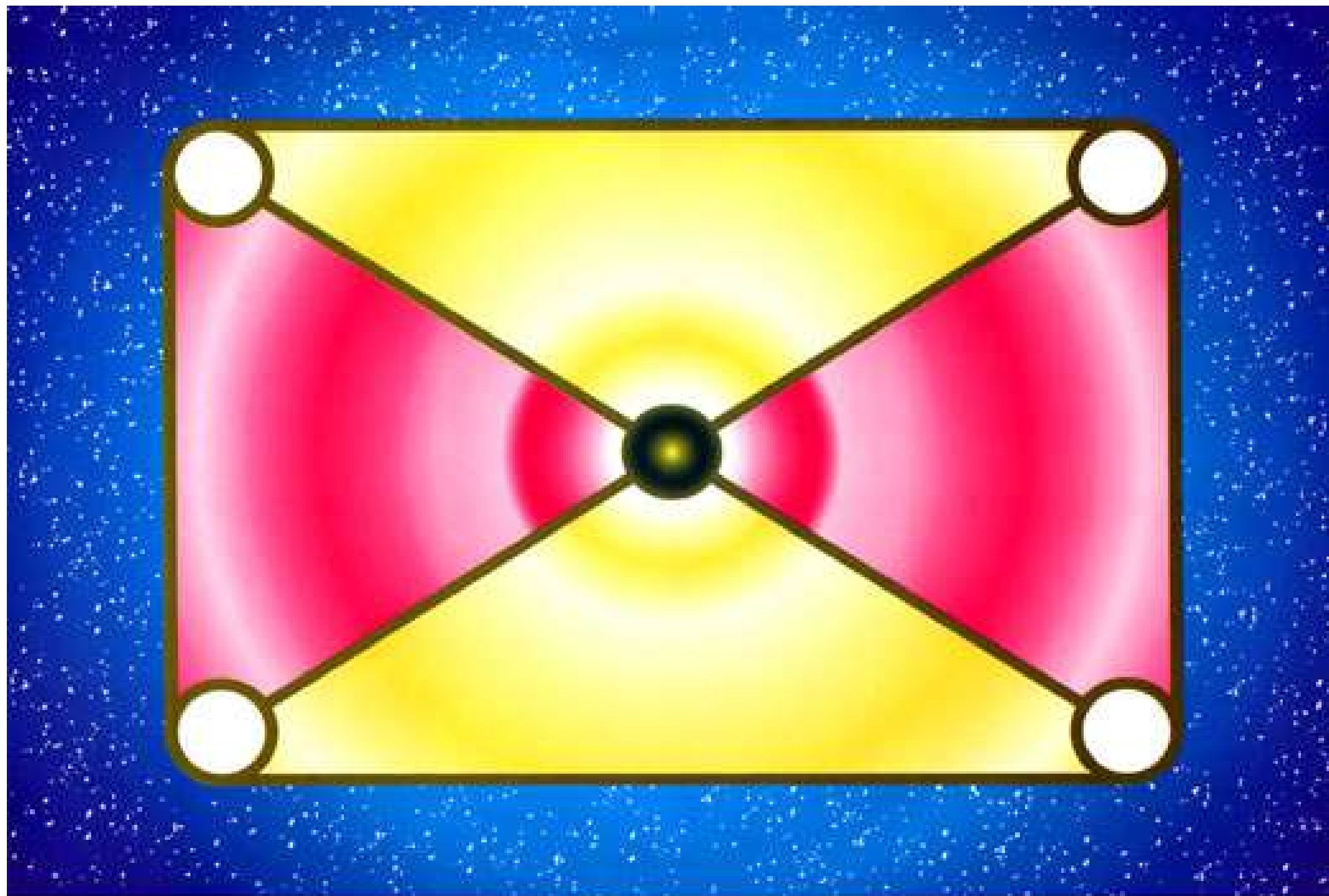
Healing **spermary** – watch for 10 minutes

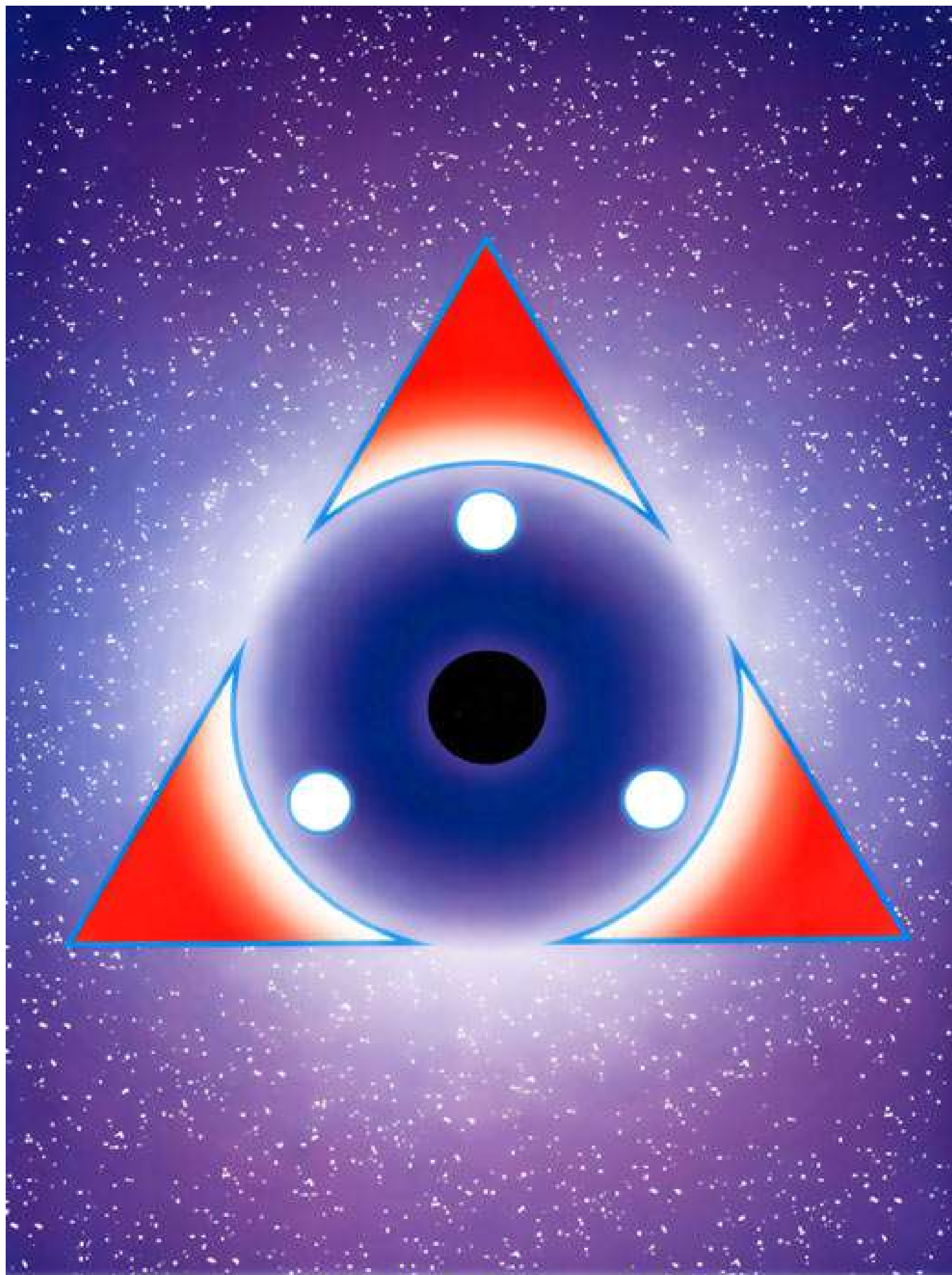
Pic. 329 X EN

angels-heaven.org

universe-people.com

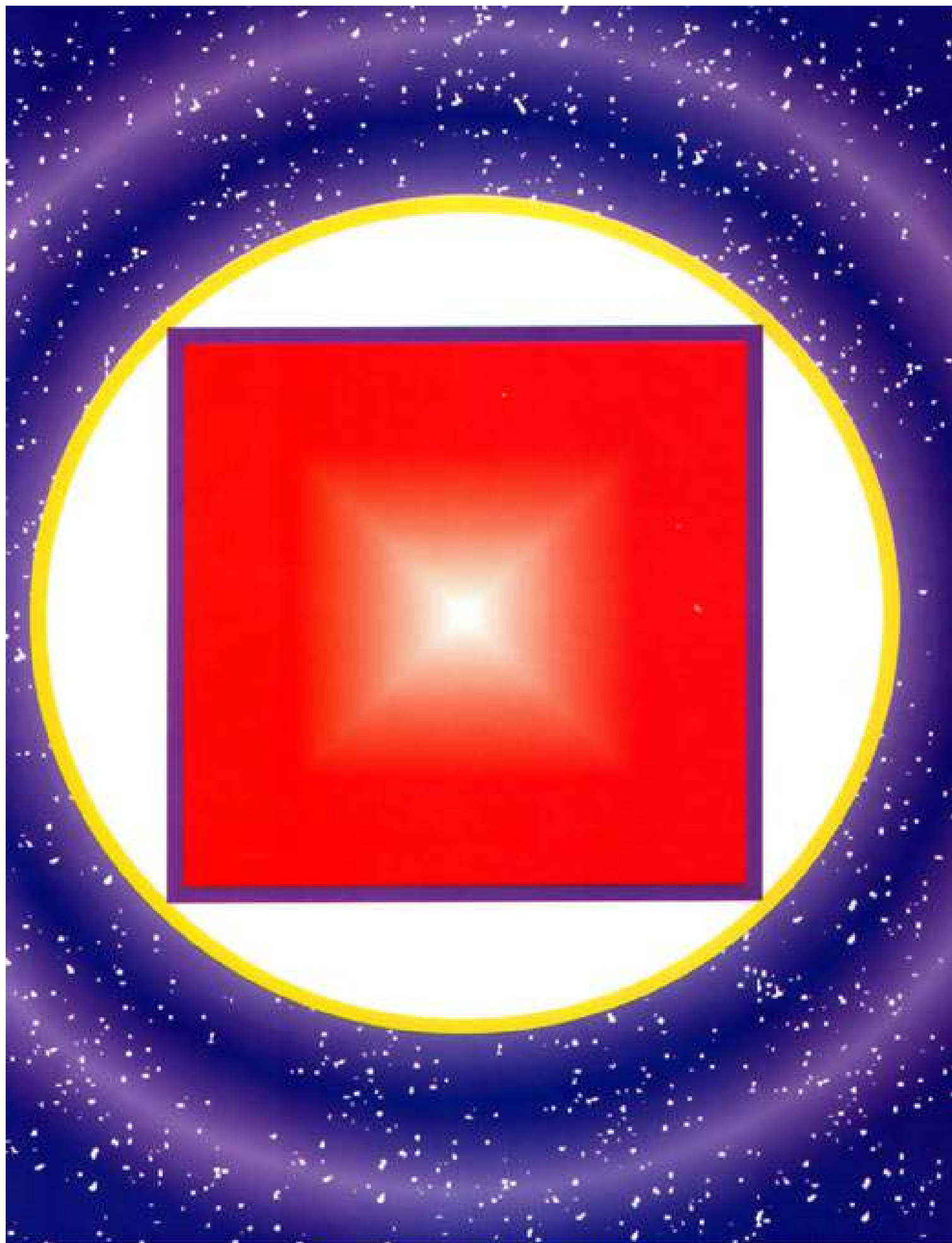
anioly-nieba.pl





Healing **vascularization of legs** – watch for 10 minutes

Pic. 331 X EN angels-heaven.org universe-people.com angelo-luce.it



Stimulating the 1st chakra,

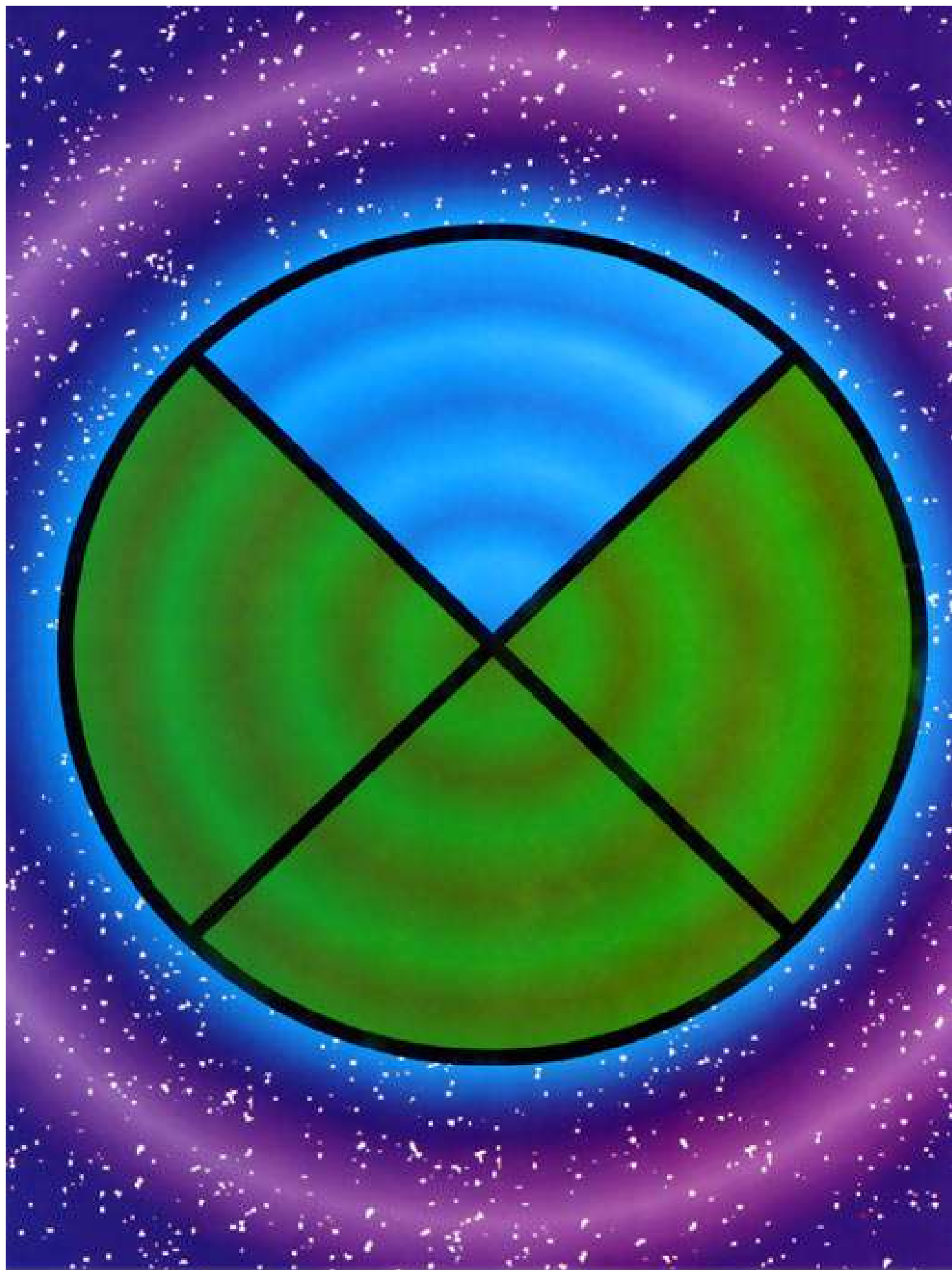
it is located on the tail-bone (coccyx) – watch and apply

Pic. 332 X EN

angels-light.org

cosmic-people.com

anges-lumiere.eu



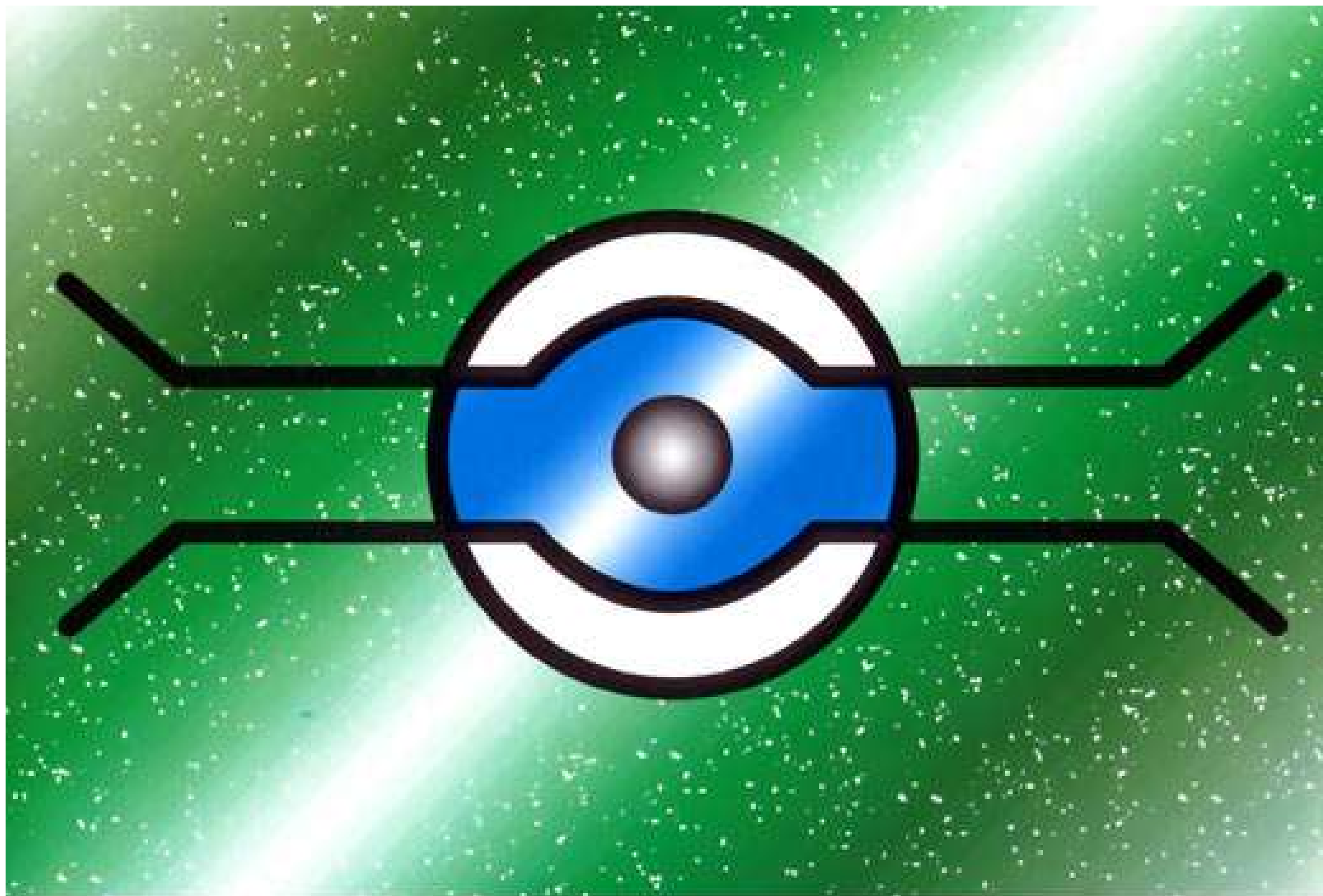
Pulling illness out of body – apply for 15 minutes

Pic. 333 X EN angels-heaven.org cosmic-people.com angely-sveta.ru

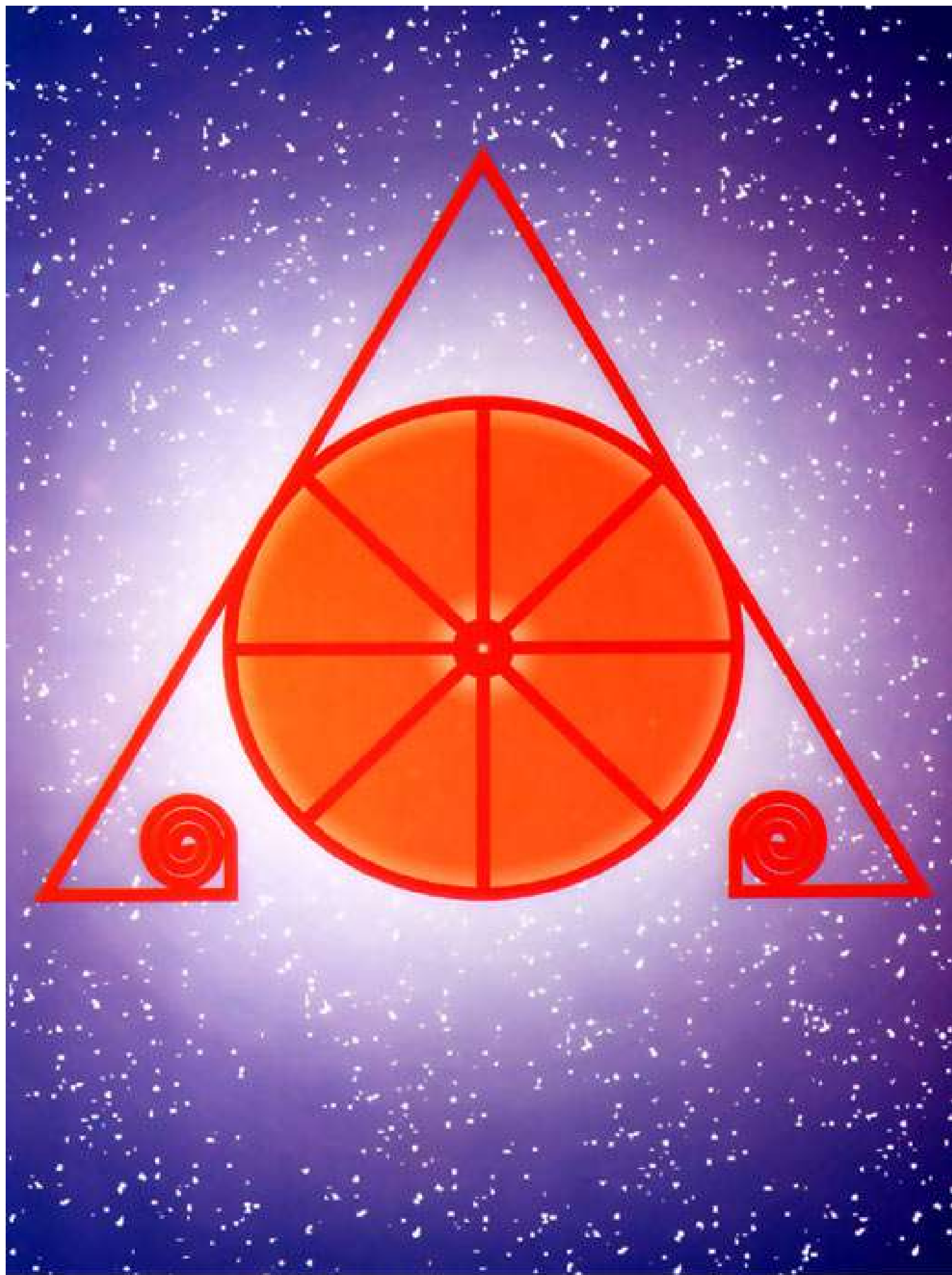


Relief at the location of illness – apply for 15 minutes

Pic. 334 X EN angels-heaven.org cosmic-people.com angeles-luz.es



Pic. 335 X EN Compensation for "Reiki" - apply for 15 minutes angels-heaven.org cosmic-people.com



Healing **womb and uterine suppository** – apply for 5 minutes

Pic. 336 X EN angels-heaven.org universe-people.com angeles-luz.es



Healing **gall-bladder** and **gall-duct** – apply for 5 minutes

Pic. 337 X EN angels-heaven.org cosmic-people.com himmels-engel.de



Controlling programmes of Dark powers for a bunch of people — intelligence, they use in projects aimed at searching for extraterrestrial civilizations CETI and SETI. They use these huge radio—telescopes (in Australia) to cheat the intelligence that there are no extraterrestrial civilizations. It is a very cunning controlling plan, exactly made up for the materialy concentrated intelligence of the whole planet Earth. In the Universe no one communicates like this because it is a very primitive way. Everywhere in the Universe Cosmic beings use telepathy—idea, which is directed by a few bodies of every being, for communication as a basic way. If you are just informed about this fact, you can easily get rid of this controlling programme of Dark powers, just as if you plugged off an electric device (you simply disconnect its wire).

Stop the Attacks! Find out if You Are Chip Implanted and Neutralize the Chip! Make it Malfunction Permanently!

What are Electronic Weapon Attacks? Sophisticated Technology designed to attack and eliminate targets, that's people like you and me, who oppose the New World Order. Common symptoms of attacks? Migraines or headaches, dehydration, feeling woozy like you're drunk or on drugs, sulfur taste in your mouth, heart rate racing for no apparent reason, hearing your heart thumping or a ringing in your ears, usually when you go to bed or when you're in front of the computer.

If you are constantly suffering from these symptoms, get away from the house for a while, it helps! Or, you can stop it from happening for good with the products I've listed below.

Let's make their chips and their technology useless!

God is showing His army how to defend themselves! But we've got to learn how to use the weapons! He's been leading me to certain things for over a decade now...for a long time I would just get weirded out by it but as He keeps leading I'm learning! Not everything is of Him so we have to be careful. But not everything is bad either! We're just conditioned to believe it is. Satan perverts everything! Just seek Yahweh and if these are defense mechanisms He wants you to have.

Neutralize Chips!!

If you think or know you are already implanted with a chip from a vaccination, flu shot, dentist, surgeon (knowingly or unknowingly through their pharmaceutical supplies) then you can cause them to malfunction within 2 days with a rare earth magnet you can buy that are cheap! I bought 10 of these magnets..the Lord showed me where to put them and I used a band aide to hold them in place. I put them as He led me to. I started on a Friday night, on Sunday I put the last 2 on because they didn't need as many hours to fry the chips as the other ones did, by Monday morning I was cleared and had neutralized all of the chips! New chips, several years old, only need about 12-24 hours to neutralize. The ones you probably got as a kid via vaccines can take 24-36 hours. So I started on a Friday night and took them off on Monday.

[1/2" x 1/4" Thick, Grade N42, Rare Earth Neodymium Disc Magnets](#)



You need to put the North side of the magnet against your skin. Any compass can tell you what the North side is, just hold the magnet up to the compass.

Compass

http://www.walmart.com/catalog/product.do?product_id=9722137

for a LED digital compass - costs alot more and needs batteries to run.

[Magnet Pole Detector - Identifier](#)



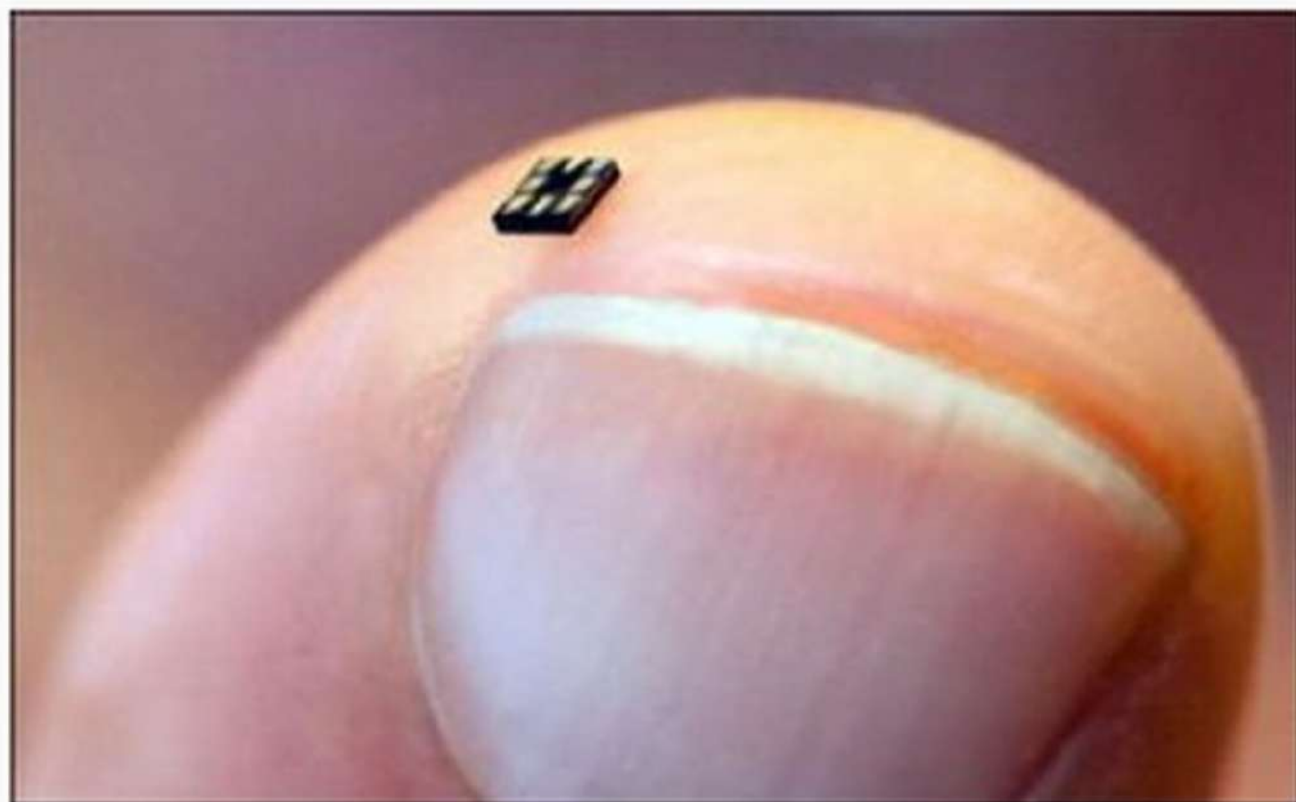




WASHINGTON—After it was discovered that hundreds of thousands of the state-sanctioned radar systems had short circuited, the Centers for Disease Control and Prevention issued a recall of the flu vaccine Friday due to defective government tracking microchips. “In response to reports that devices planted in the serum were not properly monitoring Americans movements at all times, we have decided to pull all flu vaccines from pharmacies and clinics,” said CDC director Robert R. Redfield, explaining that anyone who received a vaccine within the last 5 years had likely been given a malfunctioning location-detecting chip and would be offered a replacement free of charge. “We apologize for the mistake and are doing everything within our power to make sure that Americans are safe, healthy, and meticulously followed and observed as they go about their daily lives.” Redfield added that Americans could rest assured that the autism microchip was still working perfectly.

Study Finds 1 in 3 Americans Have Implanted With RFID Chips: Most

Posted about 1 day ago | 12 comments 

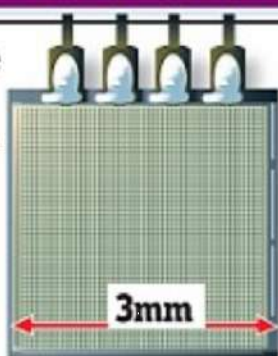


Tiny RFID chips can be implanted anywhere in the body, including during dental work.

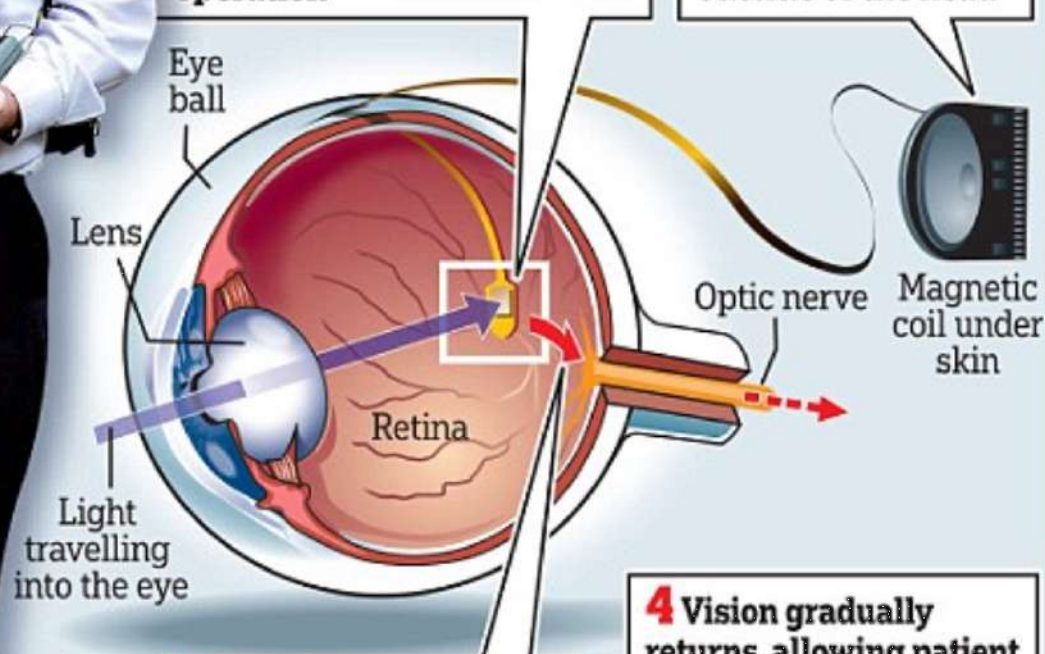
<National Report>
Technology (WIT) R
3 Americans has b
microchip. In an a
a study of nearly 30
identified nearly 10
implanted with an
they had been imp
comes amongst in
implantation will b
decade.

HOW THE IMPLANT WORKS

1 Wafer-thin three millimetre square chip packed with 1,500 light sensors implanted in back of eye in ten-hour operation



2 Ultra fine cable runs from the eye to a magnetic coil under the skin behind the ear. The battery pack is then connected magnetically on the outside of the head



Patient Chris James, 54, with the external battery unit

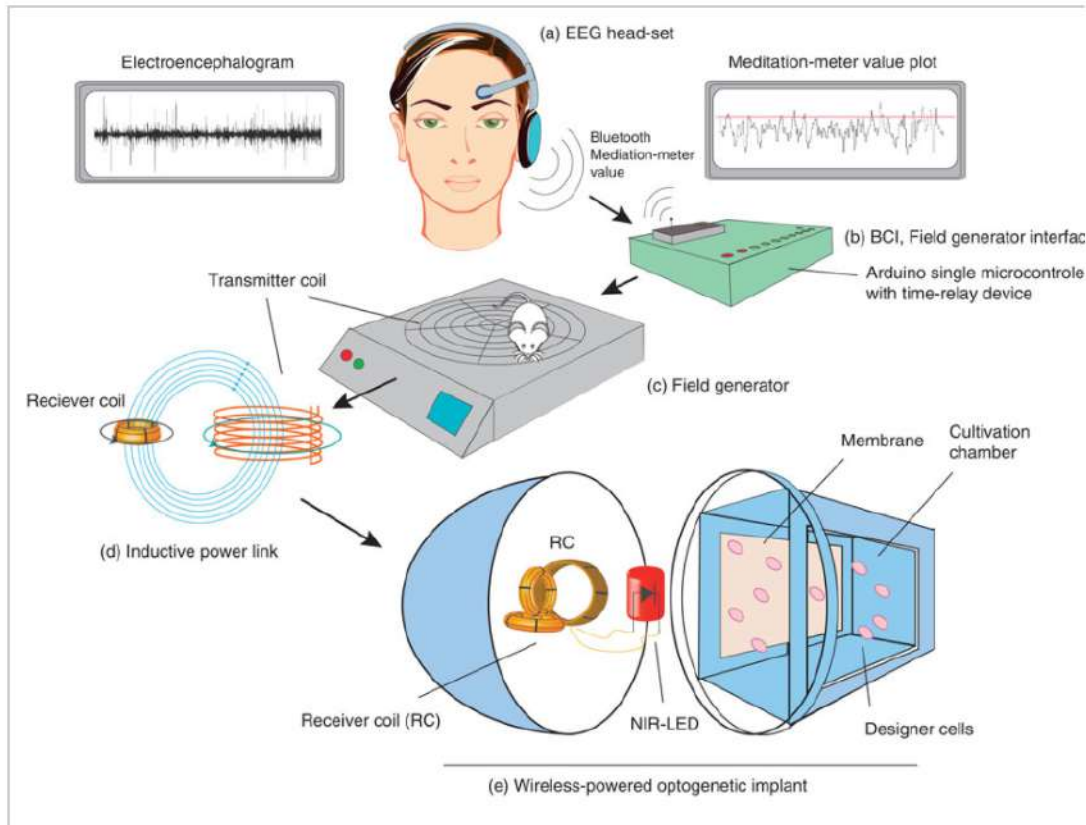
3 Sensors pick up light and convert it to electrical signals. These stimulate cells in the retina before being passed down the optic nerve to the brain for processing into an image

4 Vision gradually returns, allowing patient to see loved ones smile, recognise people from 20ft away, read clocks and navigate round obstacles



allows mind-controlled gene expression.

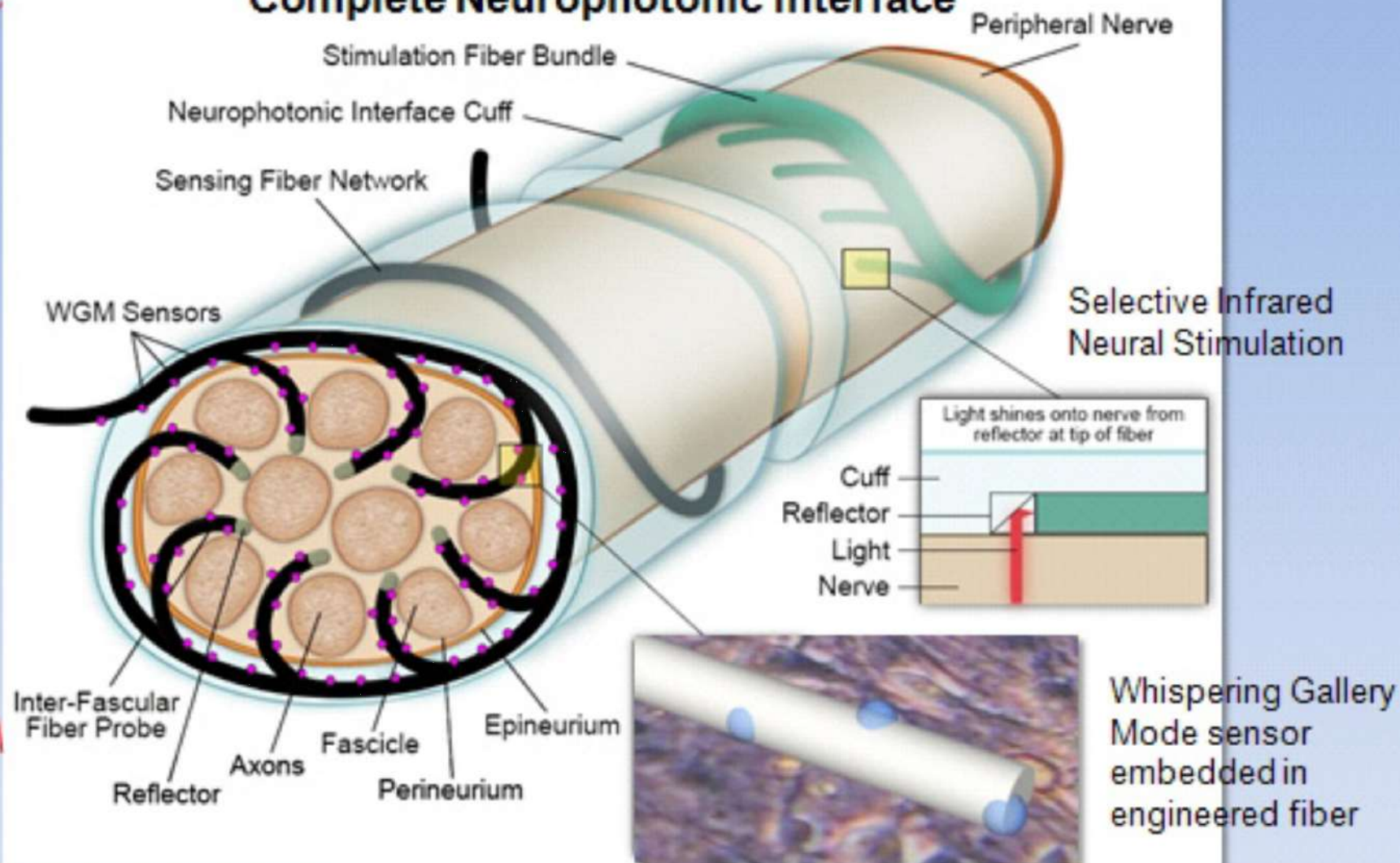
The experiments by [Folcher et al.](#) are done with optogenetic implants in mouse brains that are wirelessly controlled by human brain waves. This is the proof of concept step, preliminary to trying the implants in humans to control the expression of engineered light sensitive regulators of genes for therapeutic proteins. Here is their cartoon summary of the procedure:

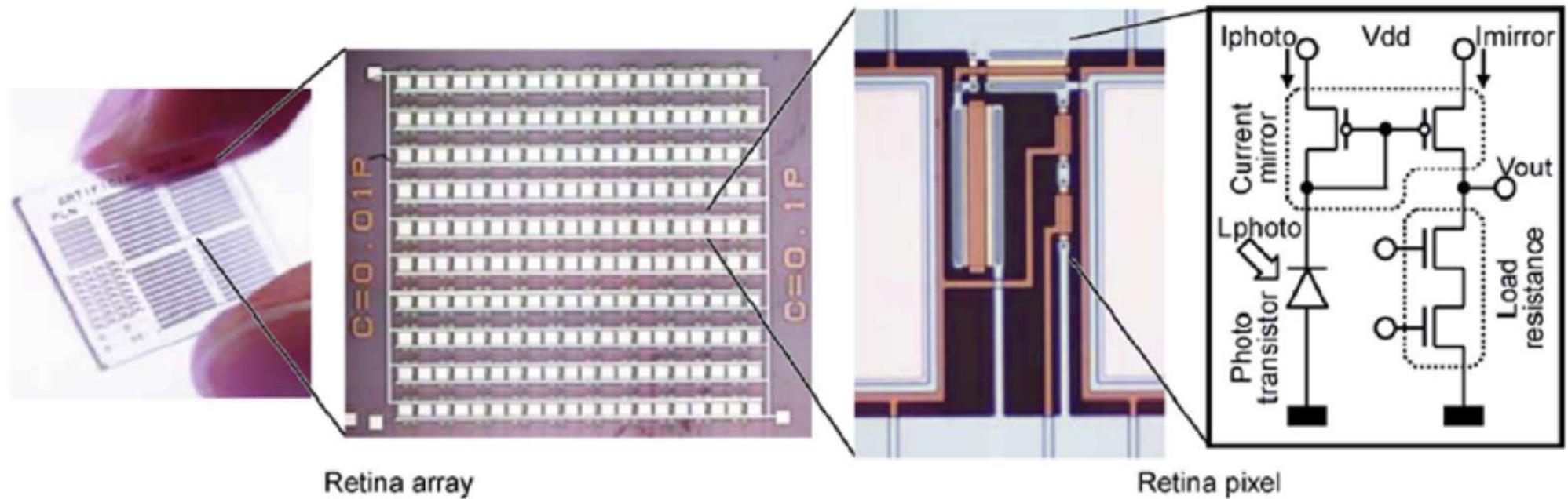
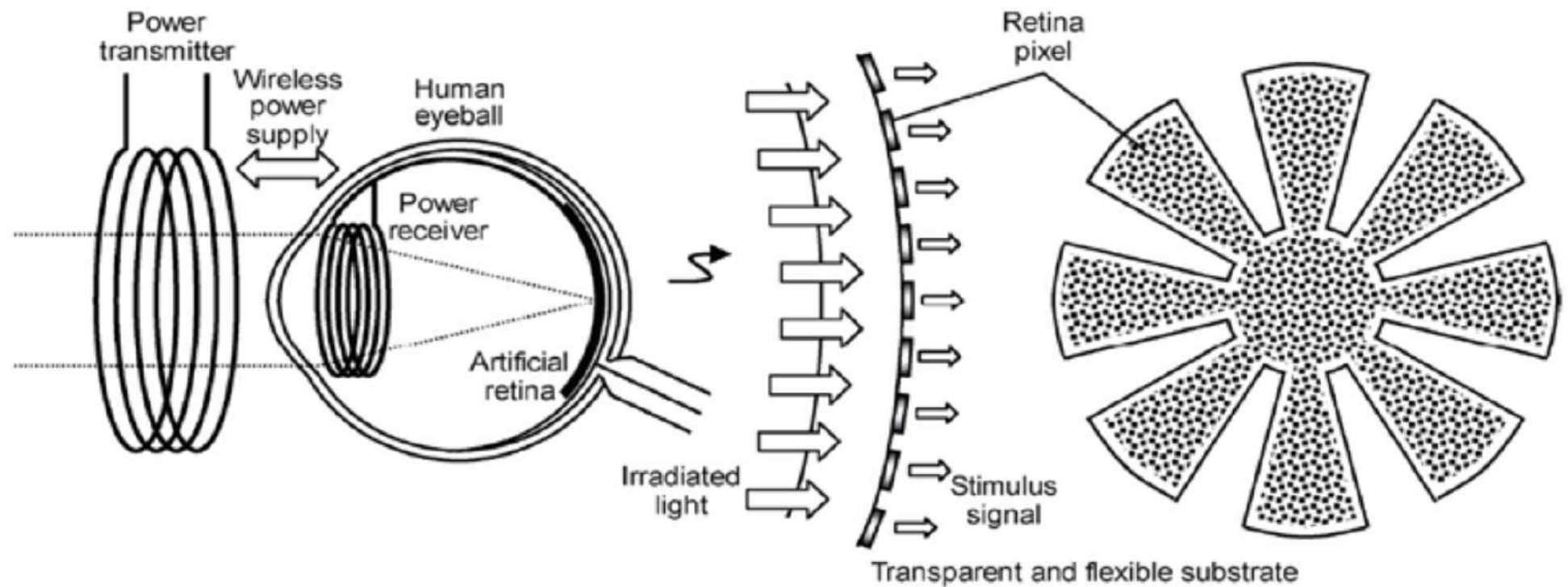


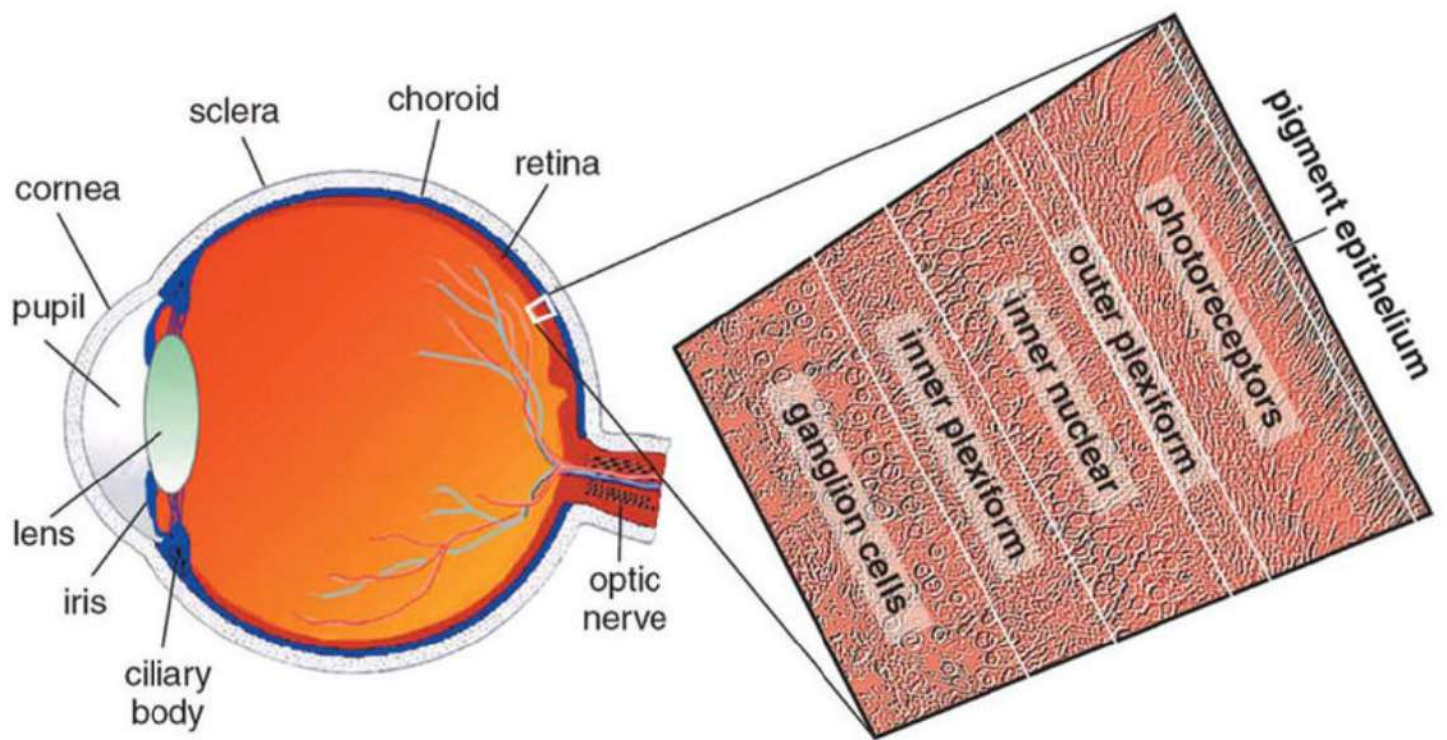
The mind-controlled transgene expression device consisted of (a) an EEG headset that captured brain-wave activities (the encephalogram), identified mental state-specific electrical patterns (biofeedback, concentration, meditation) and processed discrete meditation-meter values (0–100; meditation-meter value plot), which were transmitted via Bluetooth to (b) the Arduino single-board microcontroller with a time-relay device and switching the (c) field generator ON and OFF. This BCI (a–c) controlled (d) the TC (c,d) of the field generator, which inductively coupled with the (d,e) receiver coil (RC) of the (e) wireless-powered optogenetic implant. (e) The NIR light LED illuminated the culture chamber of the wireless-powered optogenetic implant and programmed the designer cells to produce SEAP, which diffused through the semi-permeable membrane. The blood SEAP (human secreted alkaline phosphatase) levels of mice with subcutaneous wireless-powered optogenetic implants containing designer cells that were freely moving on the field generator could be modulated by the human subject's mindset in a wireless, remote-controlled manner.



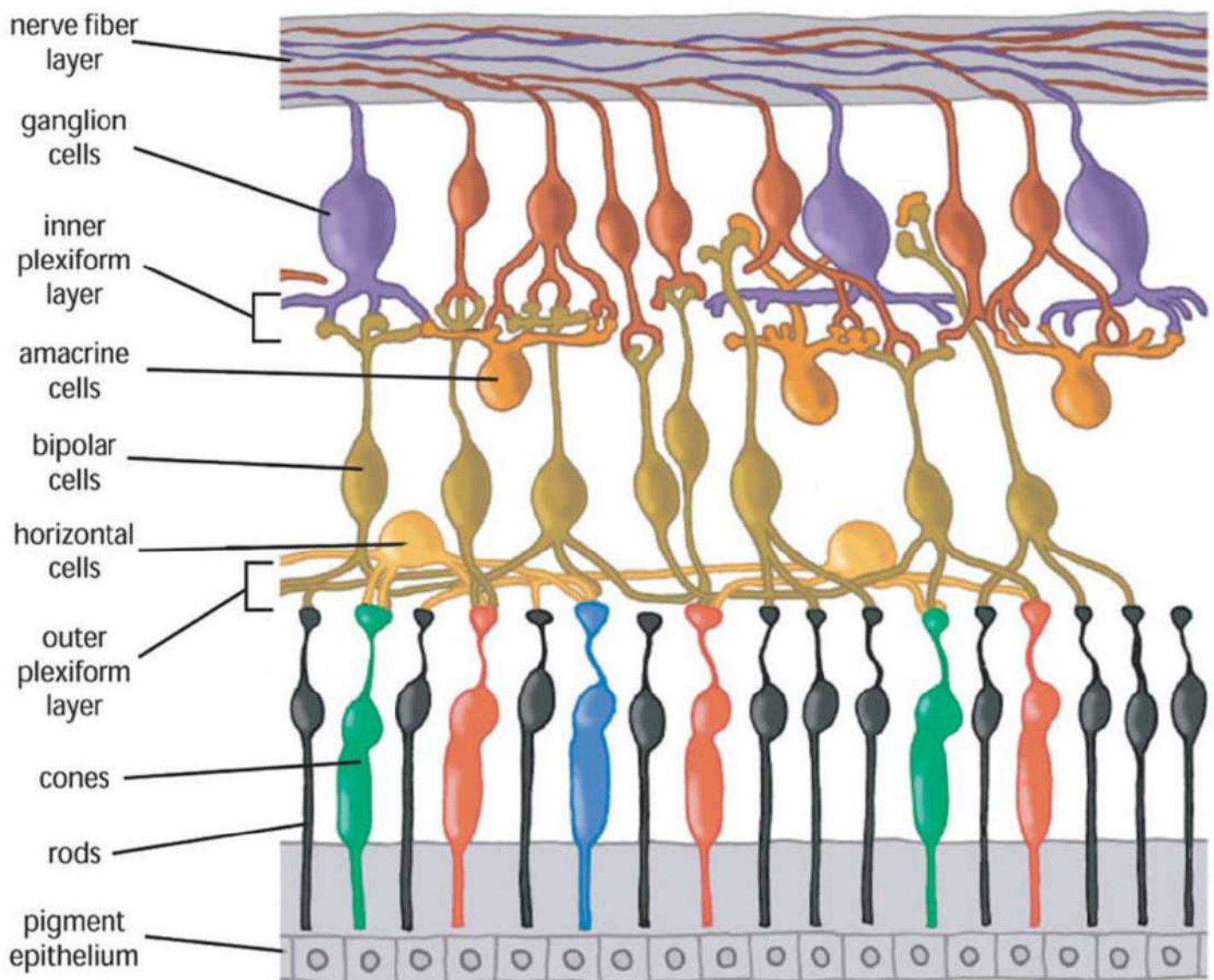
Complete Neurophotonic Interface







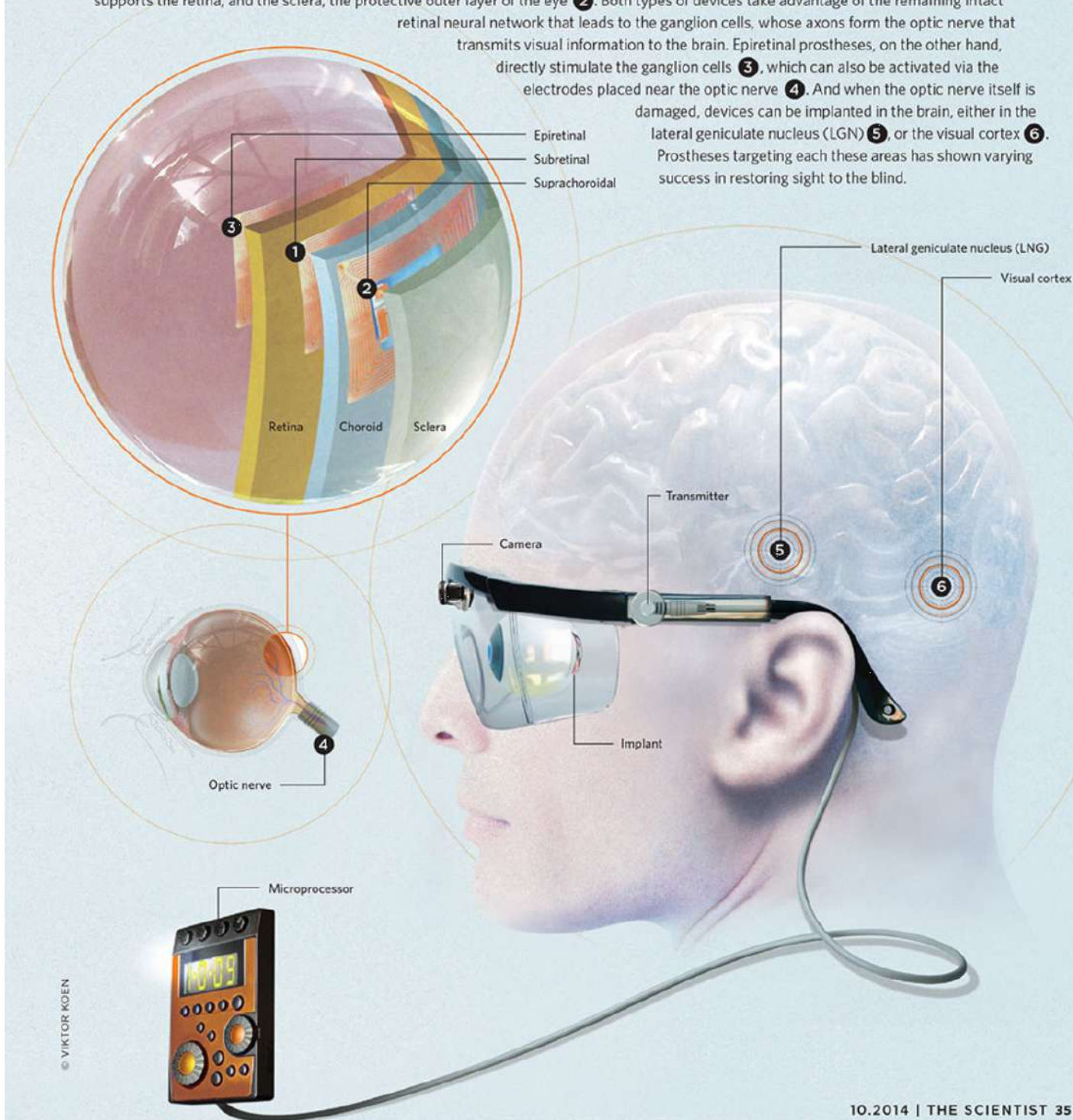
(a)

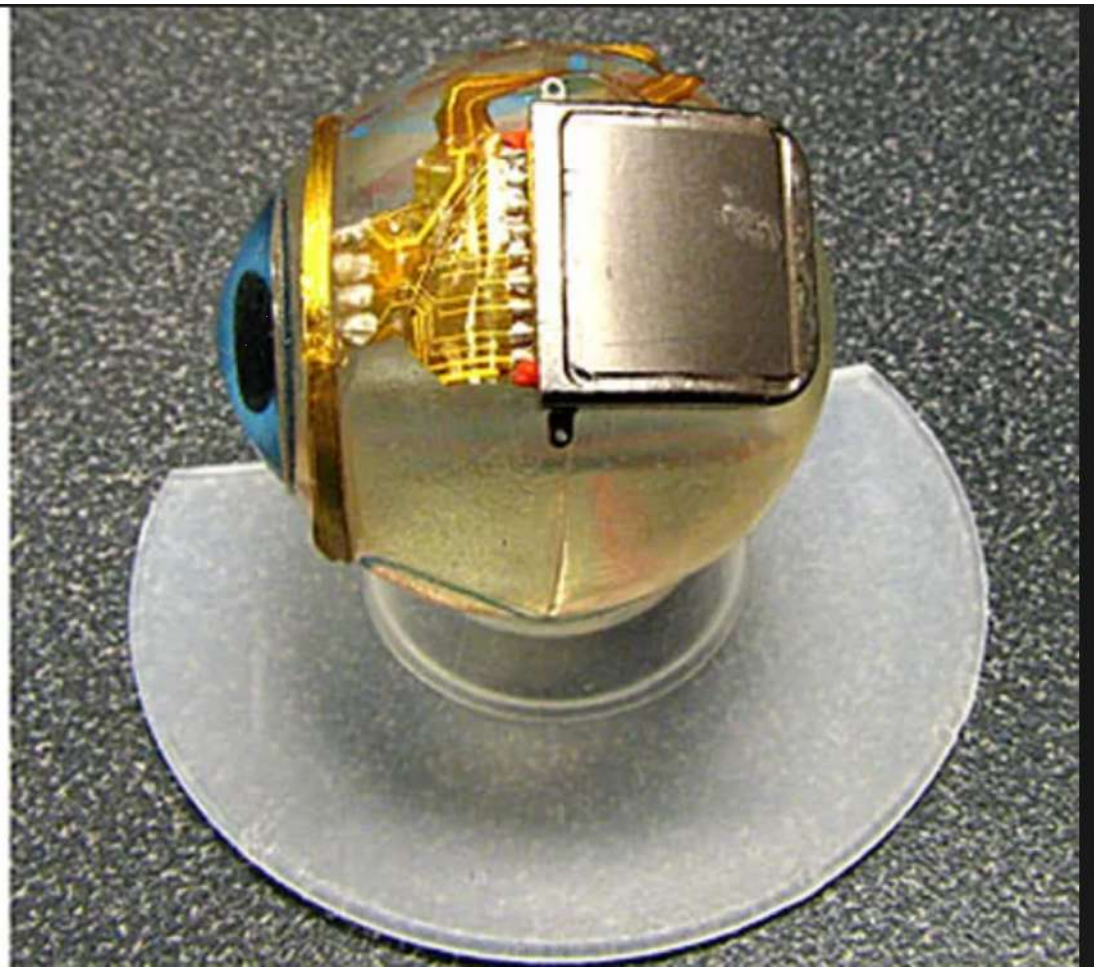


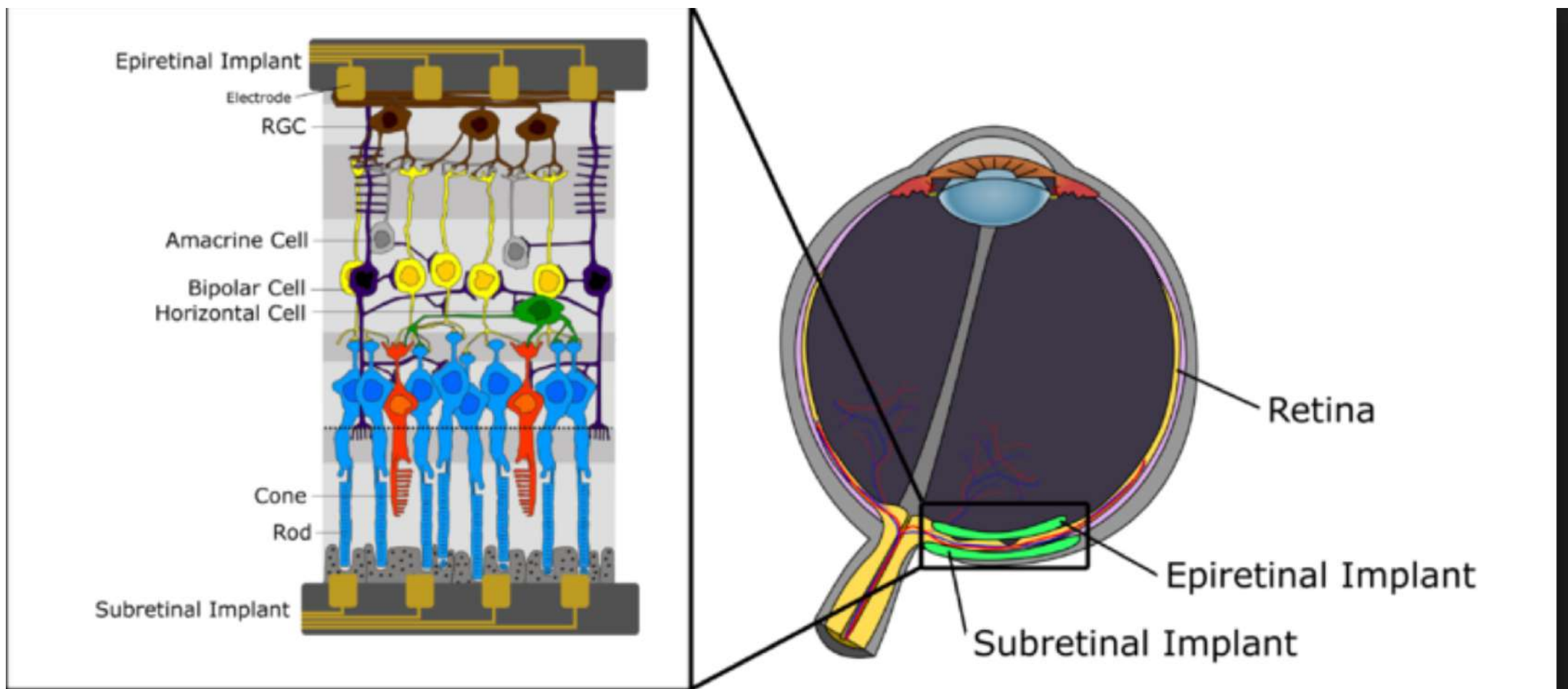
(b)

STIMULATING VISION

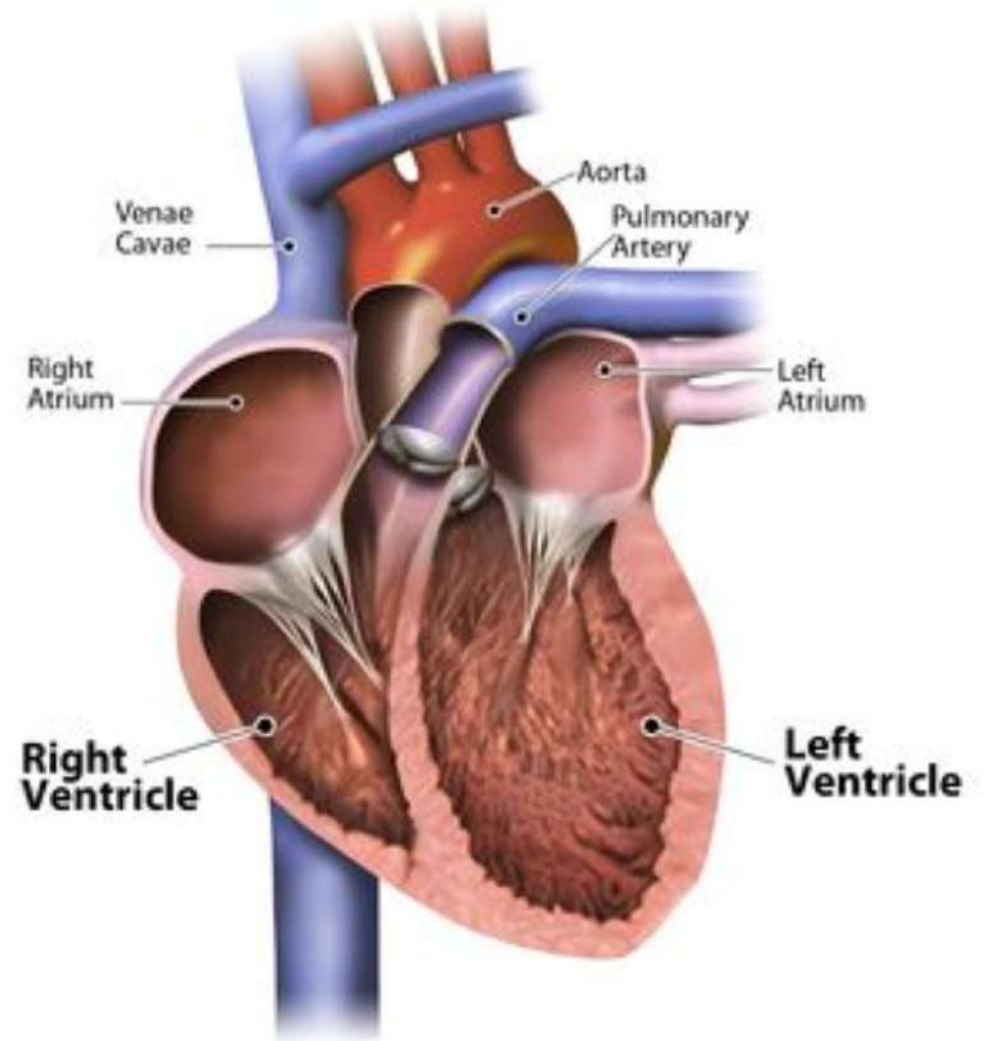
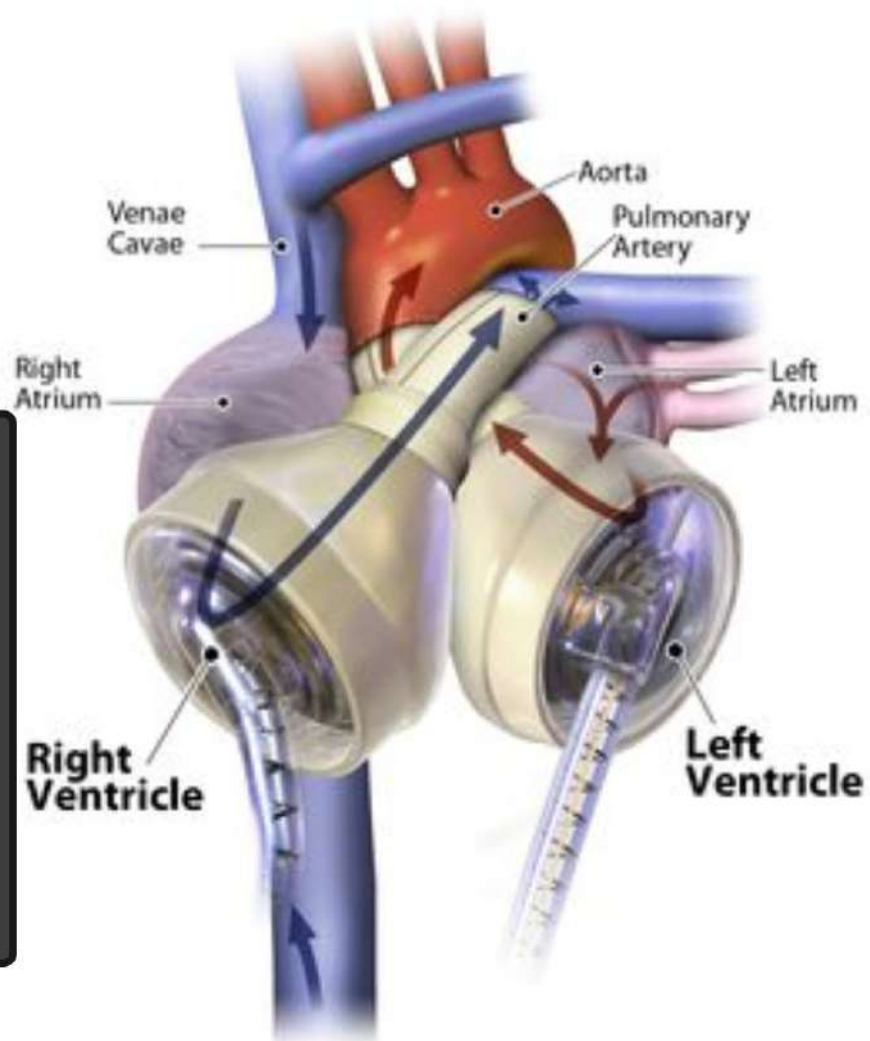
Prostheses can be placed anywhere along the visual pathway, from just behind the photoreceptor cells—the rods and cones—to the brain itself. Subretinal devices stimulate the bipolar cells and other neurons downstream of the eye's rods and cones from between the retina and the pigment epithelium **1**, while suprachoroidal prostheses stimulate these same cells from between the choroid, the vascular layer that supports the retina, and the sclera, the protective outer layer of the eye **2**. Both types of devices take advantage of the remaining intact retinal neural network that leads to the ganglion cells, whose axons form the optic nerve that transmits visual information to the brain. Epiretinal prostheses, on the other hand, directly stimulate the ganglion cells **3**, which can also be activated via the electrodes placed near the optic nerve **4**. And when the optic nerve itself is damaged, devices can be implanted in the brain, either in the lateral geniculate nucleus (LGN) **5**, or the visual cortex **6**. Prostheses targeting each these areas has shown varying success in restoring sight to the blind.











Amethyst Biomat®

alkalizedetoxify.com

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Related images:



CONSISTS OF 17 LAYERS

01. **SURFACE MATERIAL** : Silicon Urethane with Cotton
02. First waterproof layer
03. **AMETHYST** (with Tourmaline) : Transfer to natural Far Infrared Ray
04. Hyron Cotton layer for thermal insulation
05. Second waterproof layer
06. **TOCA LAYER** : Strong Negative Ions and an Magnetic Reaction
07. Electric Discharger layer for generating Negative Ions
08. Copper fabric layer for Electromagnetic Interception
09. Carbon Fiber layer for Electromagnetic Interception
10. Polyester fiber glass layer
11. Teflon Reverse currency heating layer with EMF Interception
12. Nonwoven fabric layer for electric blocking
13. Aluminium layer for reflecting Infrared Ray
14. Nonwoven fabric layer for heat blocking
15. Second Hyron cotton layer for thermal insulation
16. Polyester sponge layer for thermal protection
17. **BOTTOM LAYER** : High quality cotton with brass pattern

SAFETY SYSTEM



biomat 7000mx

CONTROLLER FEATURES

SOFT TOUCH POWER SWITCH AND TEMPERATURE/TIMER CONTROL

The Biomat 7000mx control system has many useful functions for setting the temperature, timer, and it even has the most advanced I.C. chip to reduce electromagnetic waves.

 **US FDA**
Medical Device

 **Europe**
Medical Device

 **Japan FDA**
Medical Device BG 10300403

 **Korea MFDS**
Medical Device AB3080.01[2]

Alarm Light

This light will appear if there is any malfunction. If so, check connections to ensure they are secure. Contact the dealer if you are experiencing any issues.

F.I.R. Indicator (Far Infrared Ray)

This light indicates when far infrared rays are electrically produced. This light will come on when you first set the Biomat's temperature. Once the Biomat has reached the set temperature, this light will turn off and the E.D.N.I. light will begin to flash.

E.M.F. Interception Light

This lights up to indicate the active reduction of harmful electromagnetic waves. It turns off if there are no electromagnetic waves to block.

Temperature Indicator (Fahrenheit)

Timer Control

This indicates the usage time before the Biomat turns off. Pressing the button will change the timer setting.

Temperature Indicator (Celsius)

Temperature Up

Temperature Down

Soft Touch Power Switch



Awarded Best Medical Device in 2010

Grand prize in the medical device field by the Royal Swedish Academy of Sciences



The Gettysburg Address

Delivered at the dedication of the Soldiers' National Cemetery in
Gettysburg, Pennsylvania, November 19, 1863



5,000 spectators were in attendance



Project Pegasus and the Advent of Time Travel



▶ ⏮ 🔊 1:34:59 / 2:02:46



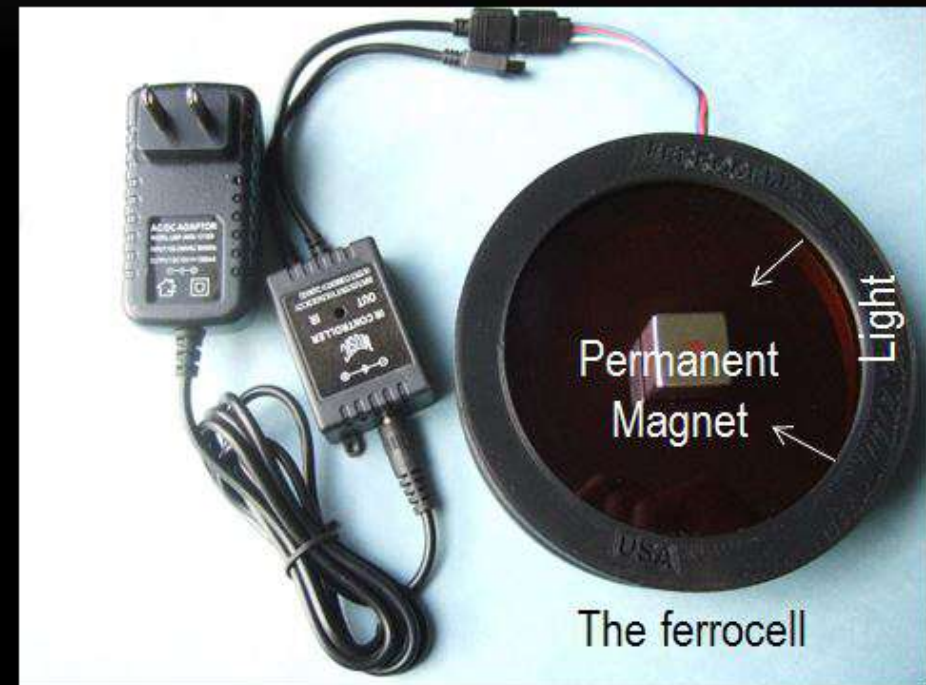
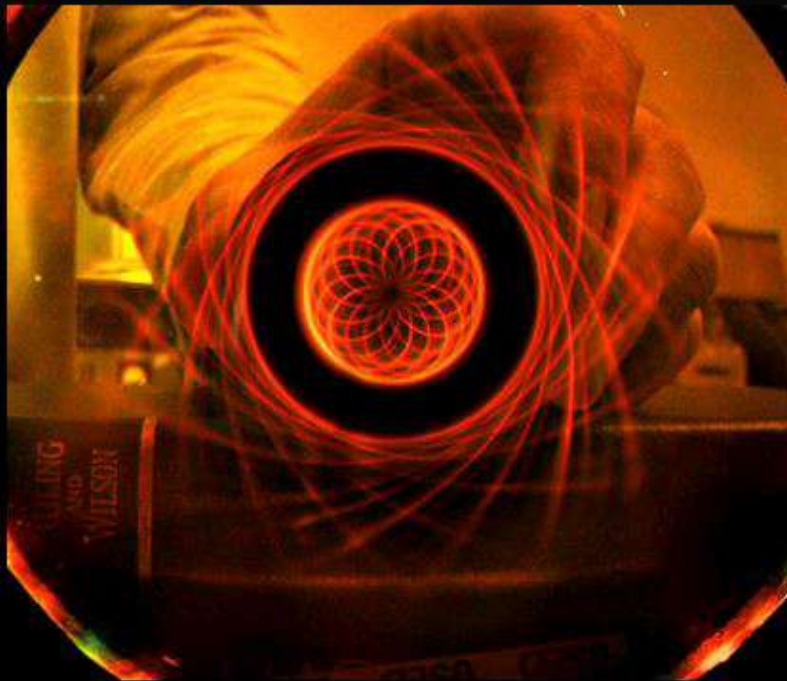
Andrew Basiago - Time travel - Pegasus project



The Philadelphia Teleportation and Time Travel Experiments - Al Bielek & Vladimir

THE FERROCELL & MAGNETISM REVELATION OF THE UNKNOWN

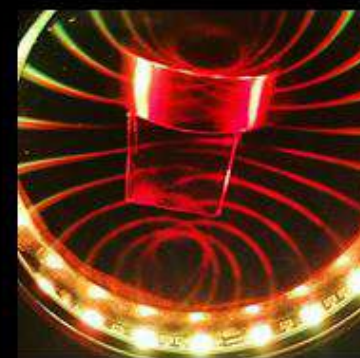
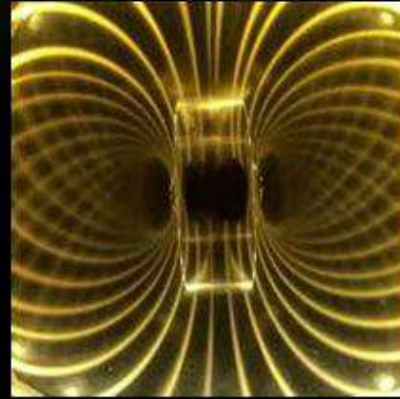
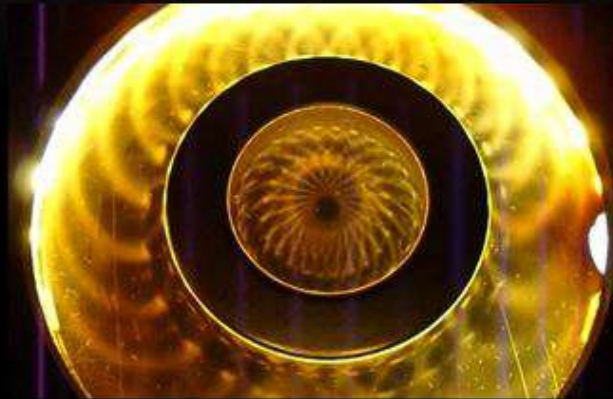
A Ring Magnet viewed under a Ferrocell, revelation of **unknown**, **toroidal symmetry** & **opposed spins**.



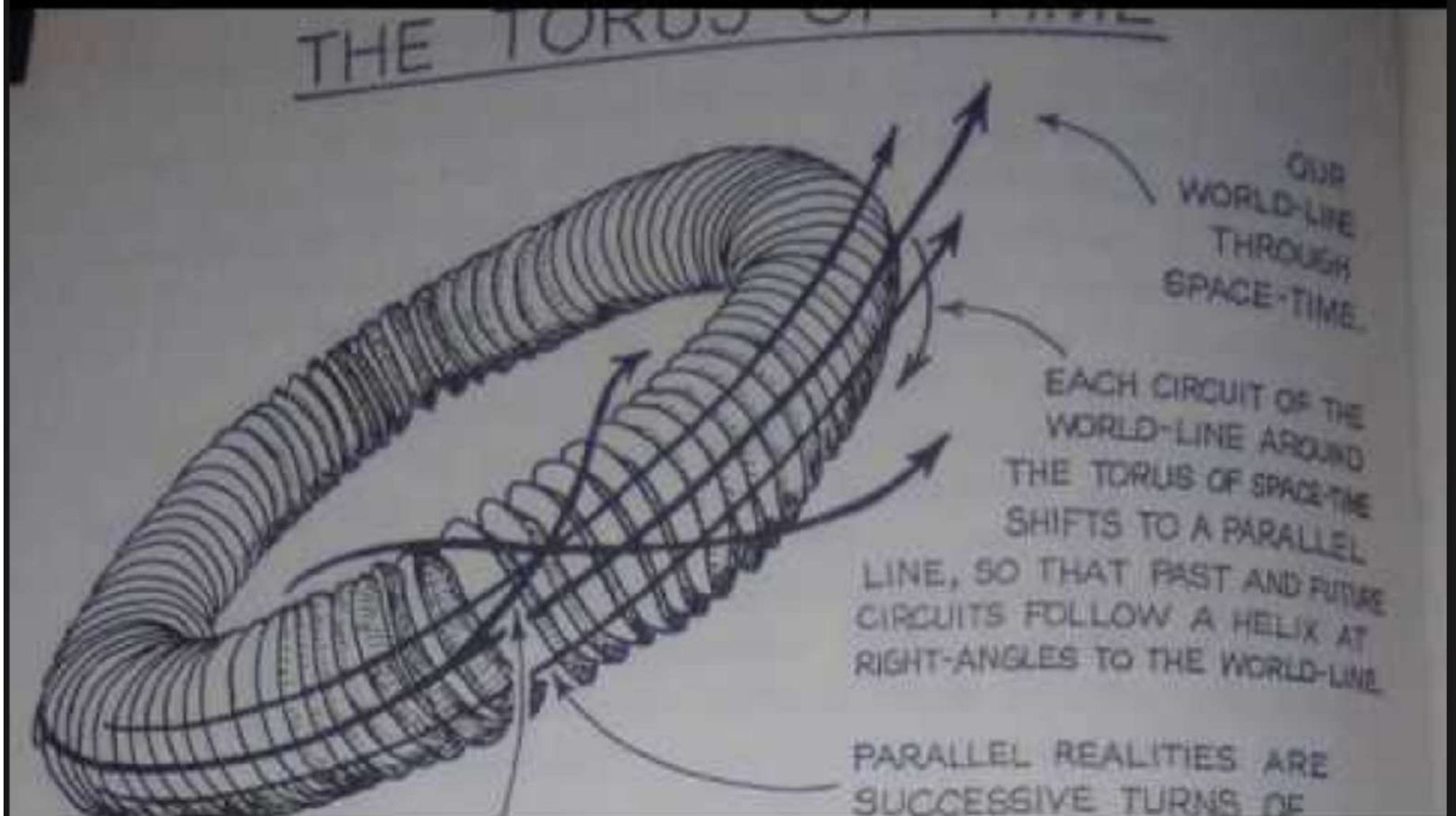
Timm Vanderelli, Ferrocell.us

THE FERROCELL

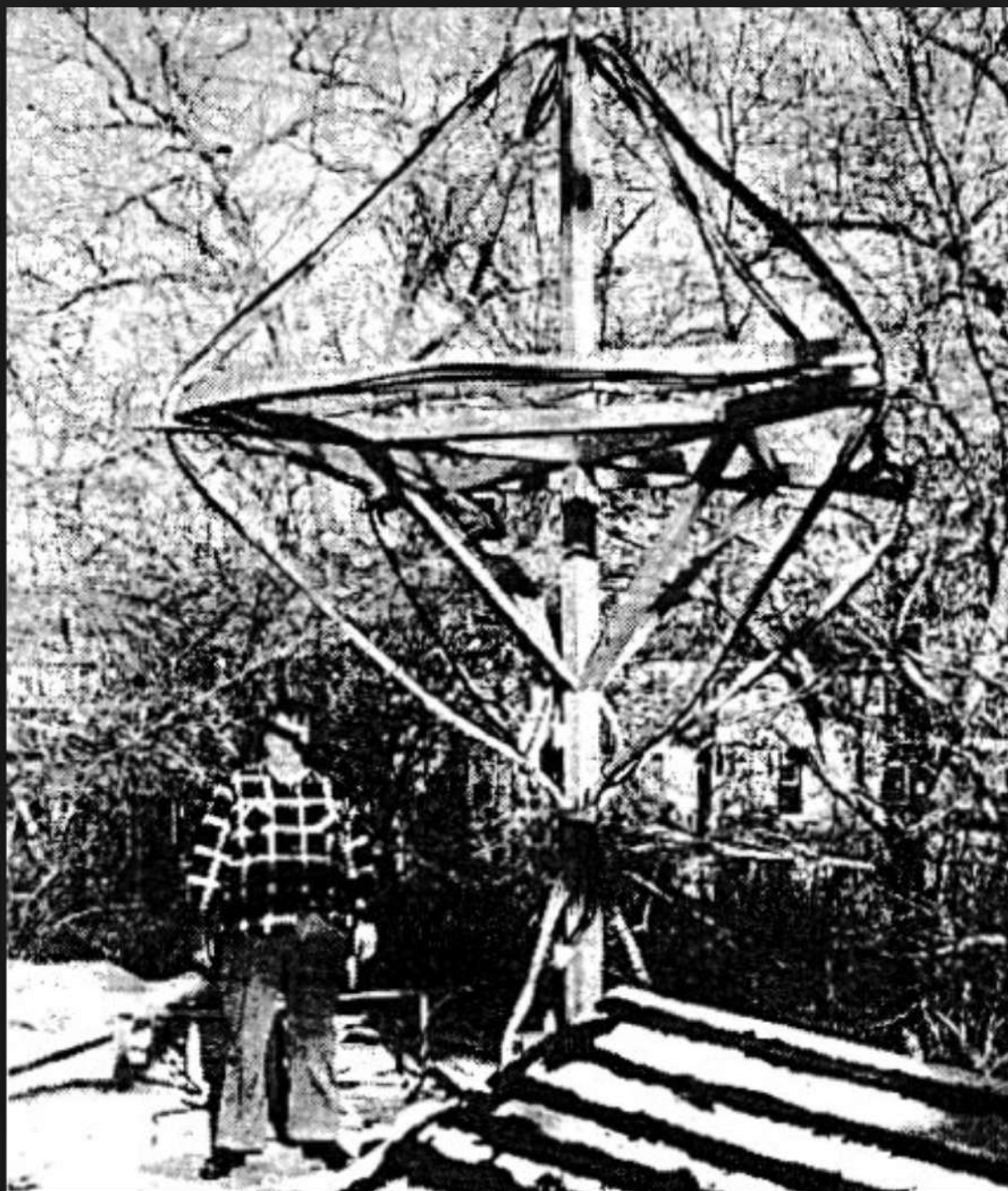
MAGNETISM & LIGHT SEEN LIKE NEVER BEFORE



Invisible to the naked eye – «dark», unless illuminated. #ferrocell



DELTA T GENERATOR



The Delta-T antenna

Noble Realms

<http://montalk.net/deltat.jpg>



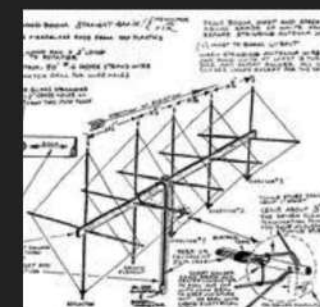
Visit

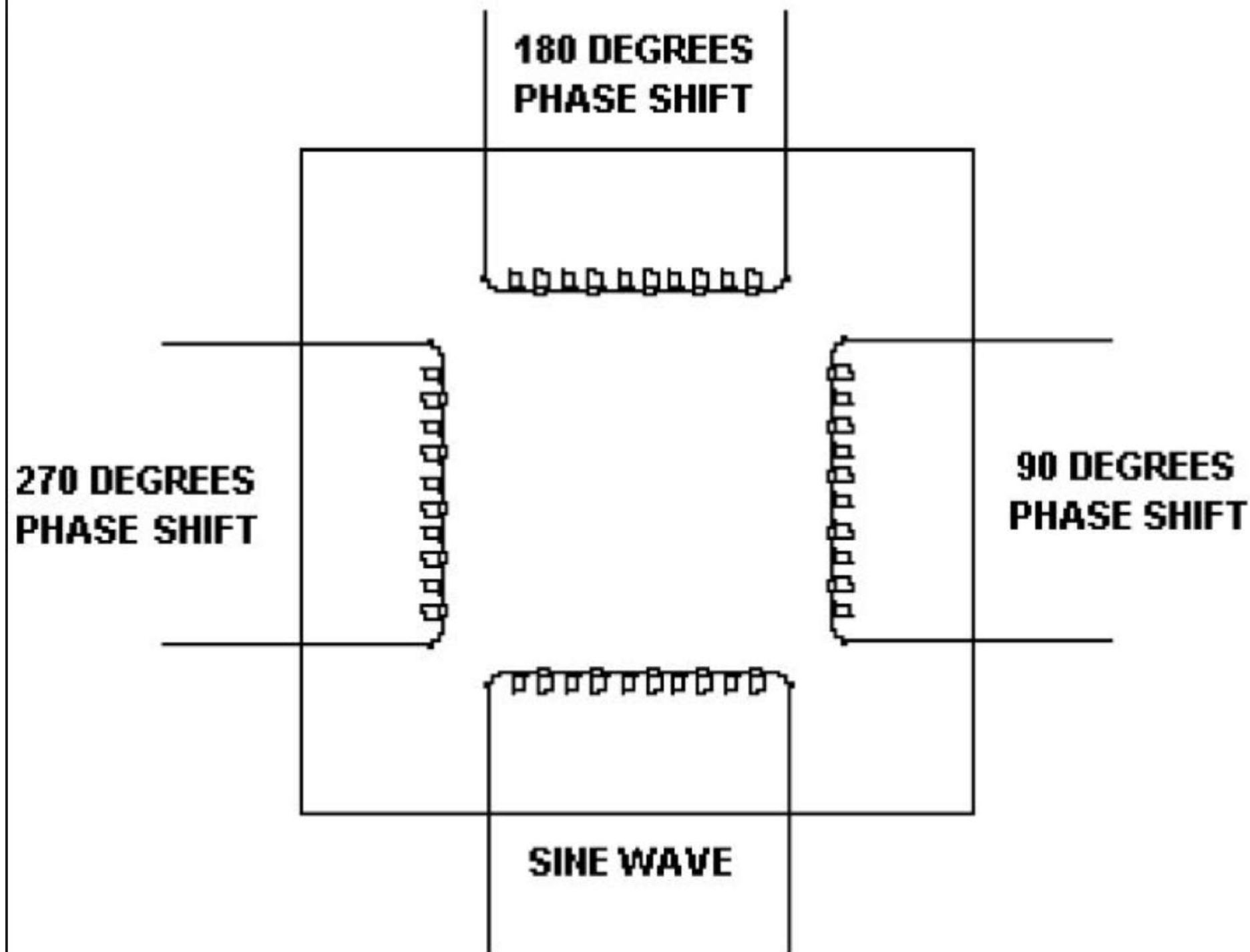


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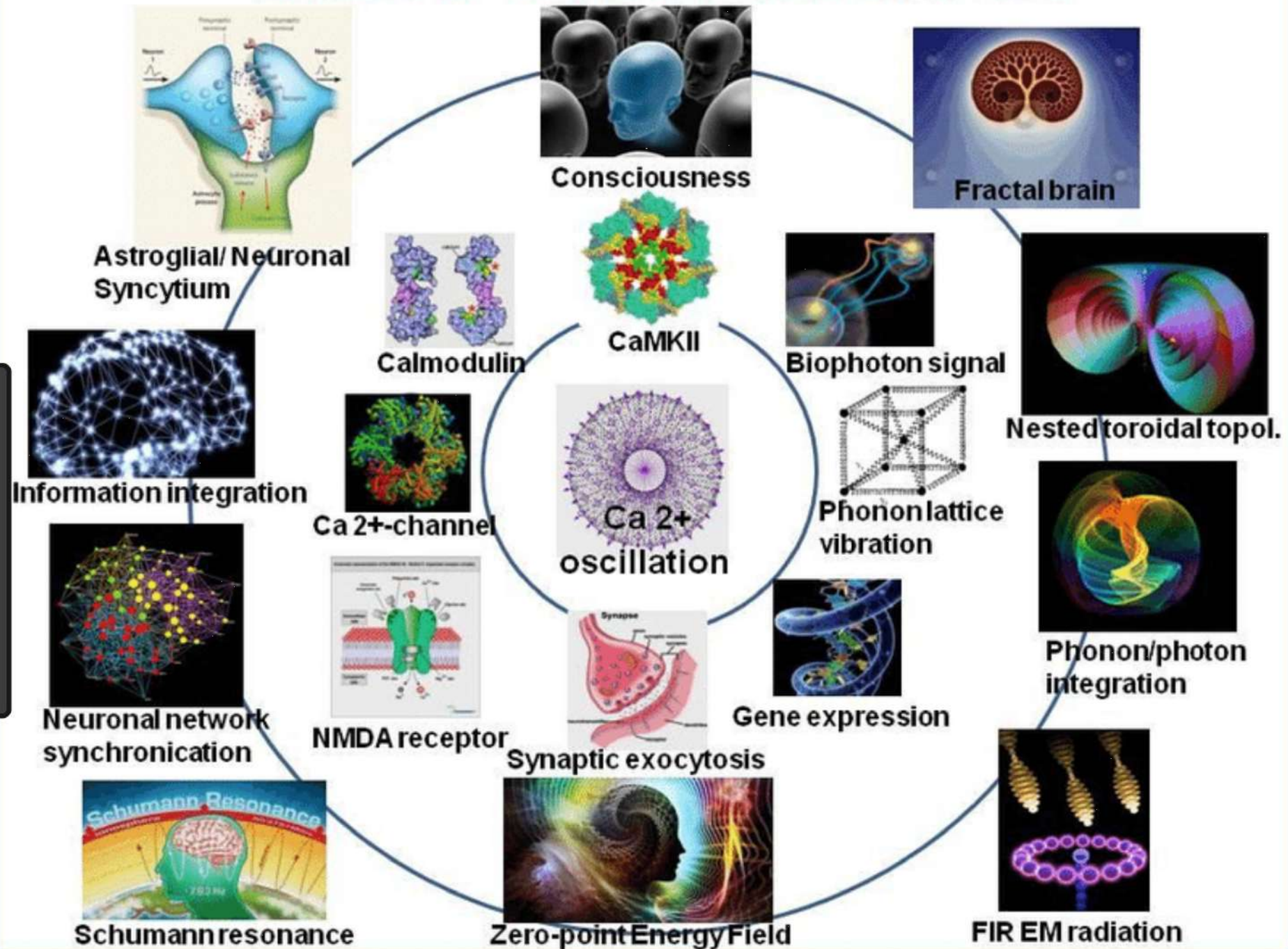


CAMP HERO

Electromagnetic Field of the Heart

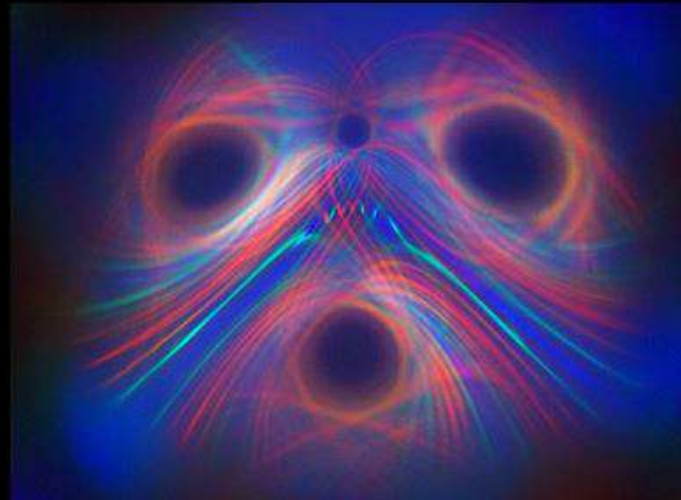
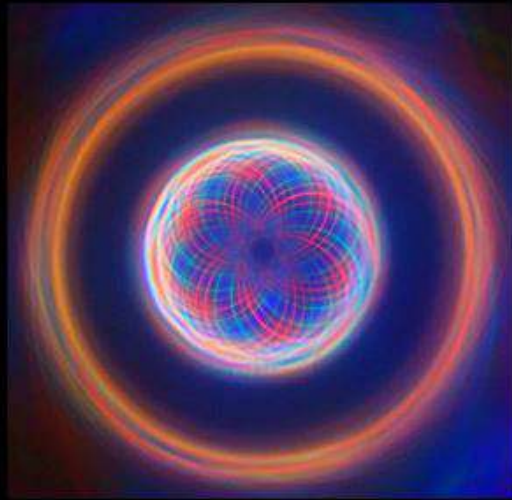
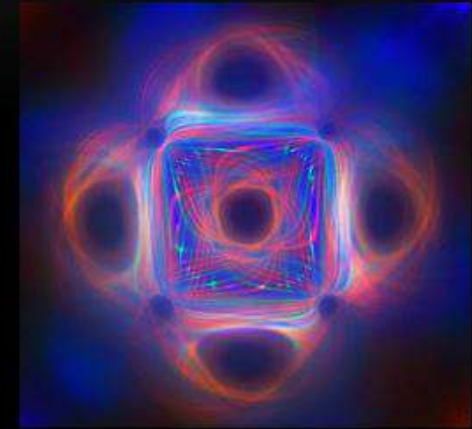
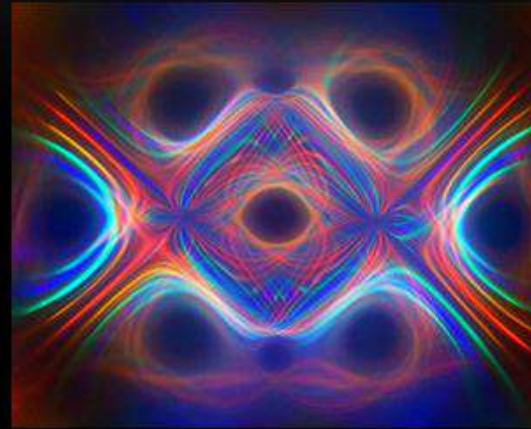


Toroidal Ca^{2+} - Information Flux and Consciousness



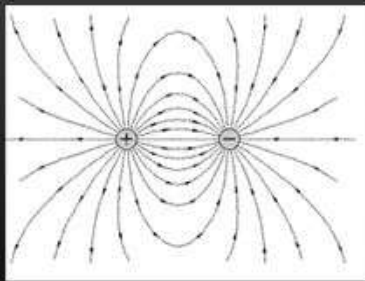


FERROCELL IMPRESSIONS



Froghound @Froghound - 7 Std.
To see a world in a grain of sand
and a heaven in a wild flower
hold infinity in the palm of your hand
and eternity in an hour

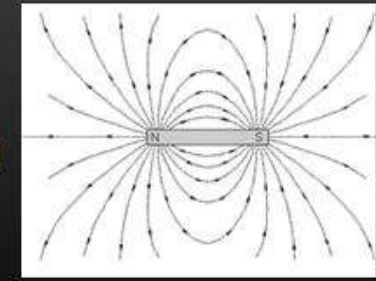
Ferrocell & various magnets/magnet assemblies (Image Source: Michael Snyder & Froghound)



WHAT DOES THE FERROCELL REVEAL?

Electromagnetic field symmetry: Electric & Magnetic Fields finally unified

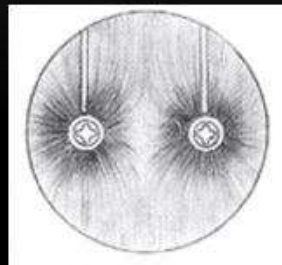
Equal field symmetry



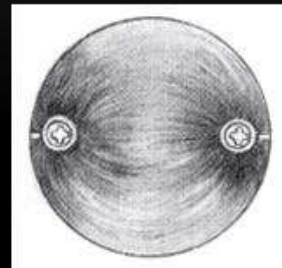
Electric fields

Magnetic fields

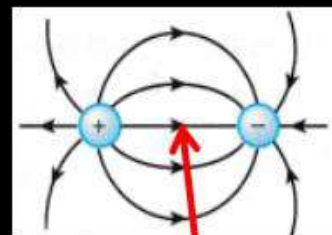
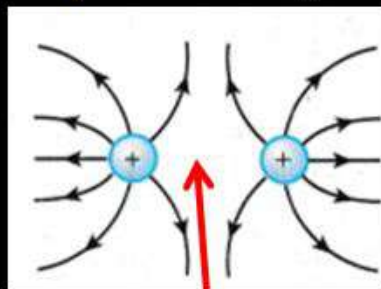
Known



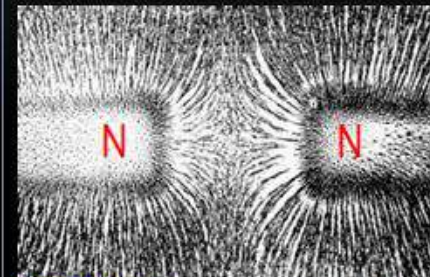
Repulsive charges



Attractive charges



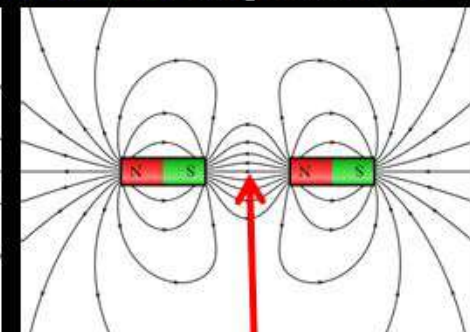
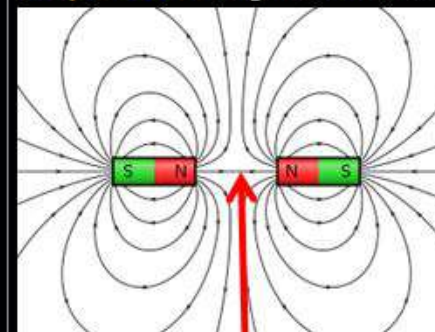
Ferrocell: Revelation of the unknown fractal toroidal electromagnetic field symmetry



Repulsive magnetic fields



Attractive magnetic fields



Similar but not equal field symmetry if opposite polarity to electric fields

Similar but not equal field symmetry if opposite polarity to magnetic fields

Unknown

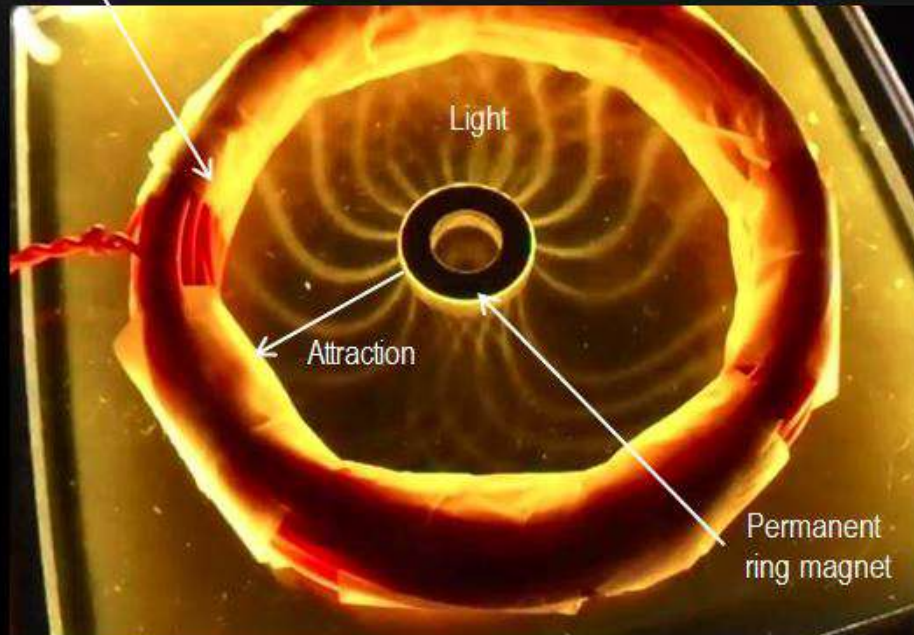


Ferrocell – Revelation of the complete understanding of electromagnetic field symmetry hidden in iron filings.

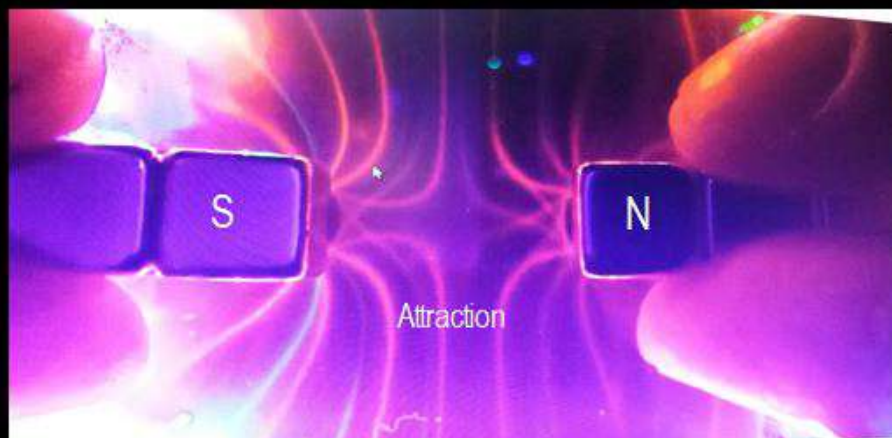
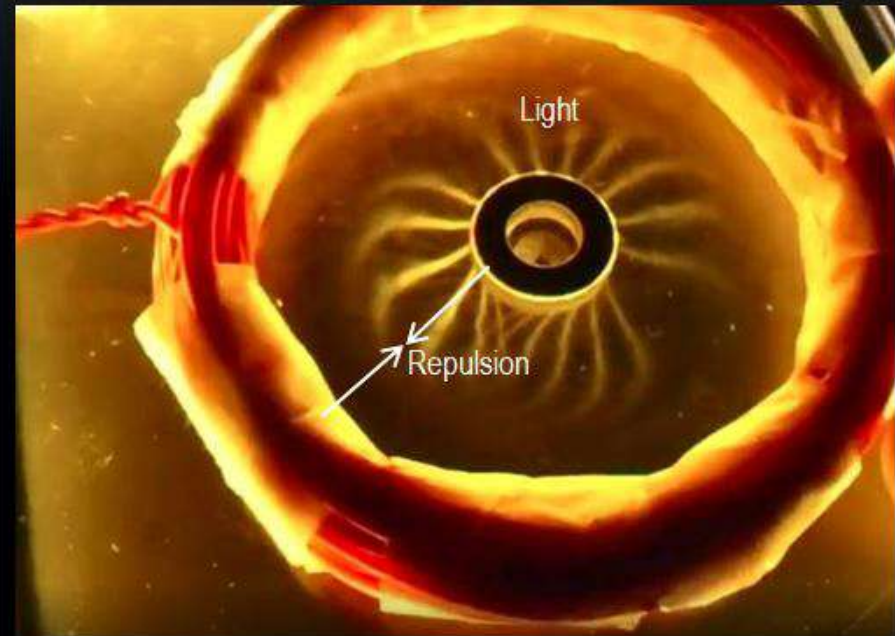
WHAT DOES THE FERROCELL REVEAL?

Electric current
Flowing through coil

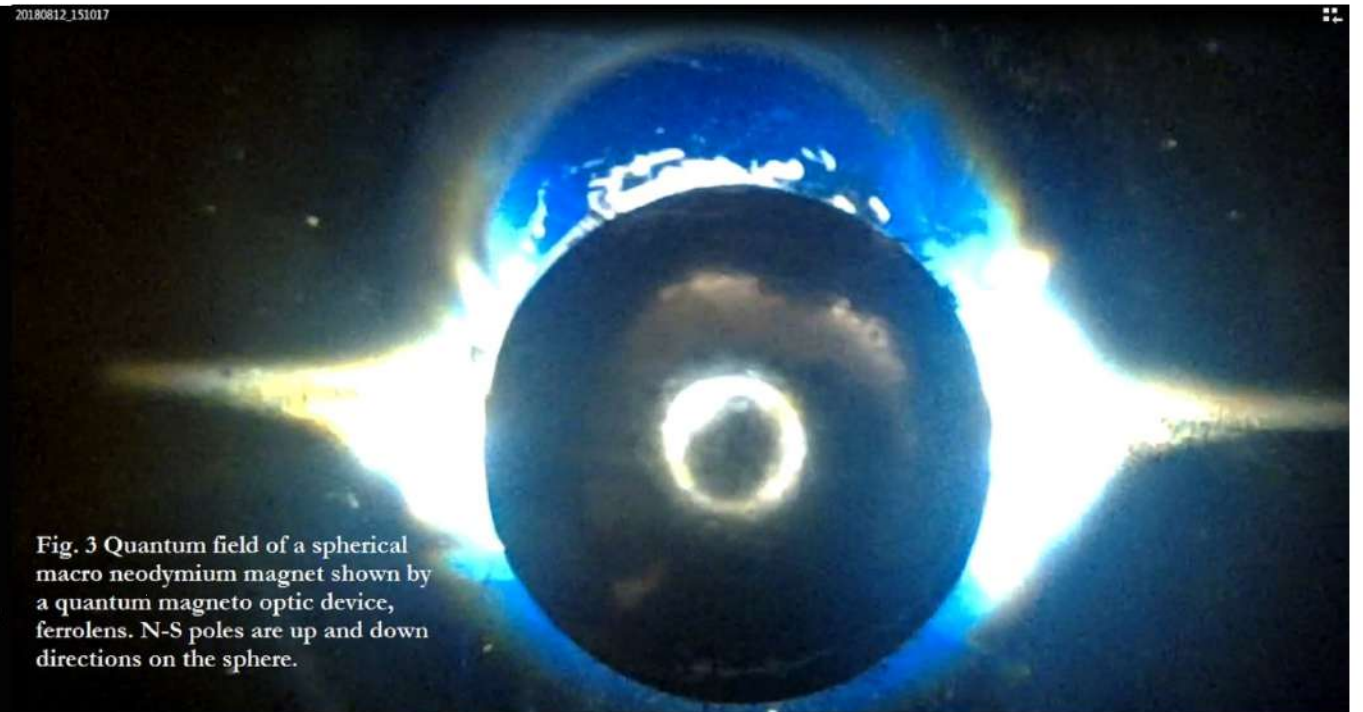
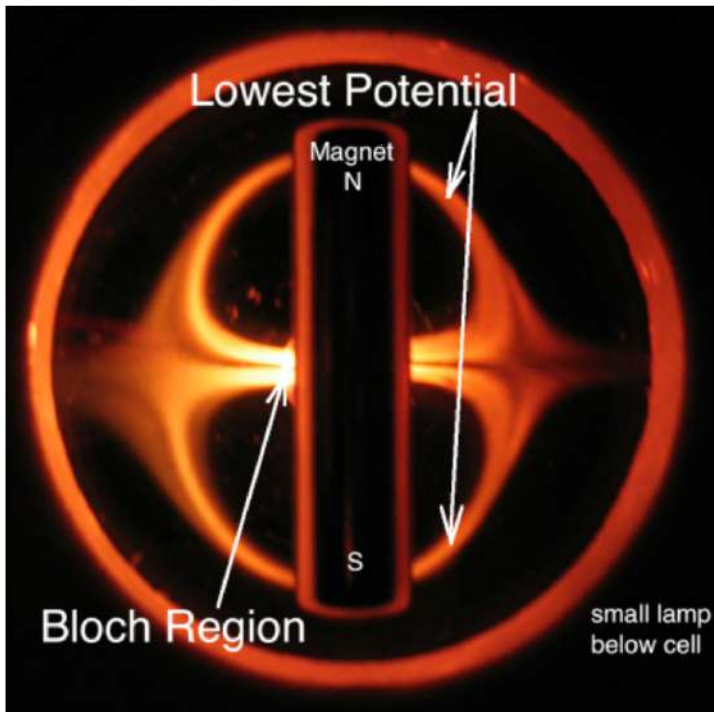
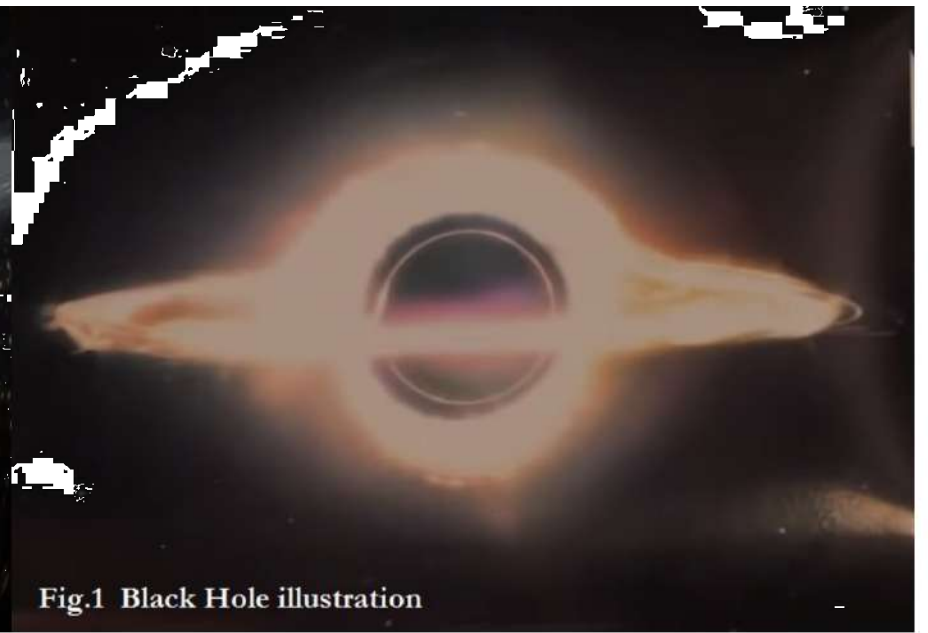
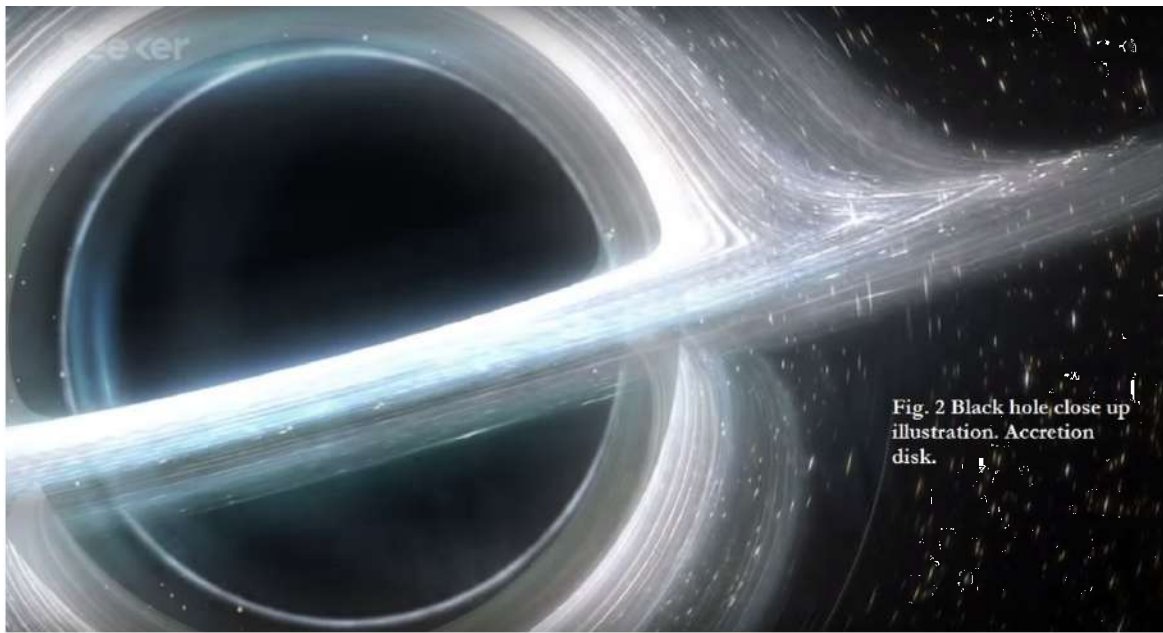
Attractive magnetic fields



Repulsive magnetic fields



Electric current (electrons), light (photons) and permanent magnetic fields in ONE experiment. #awesome

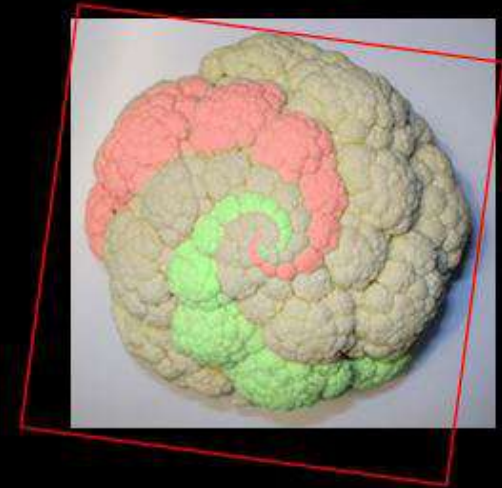
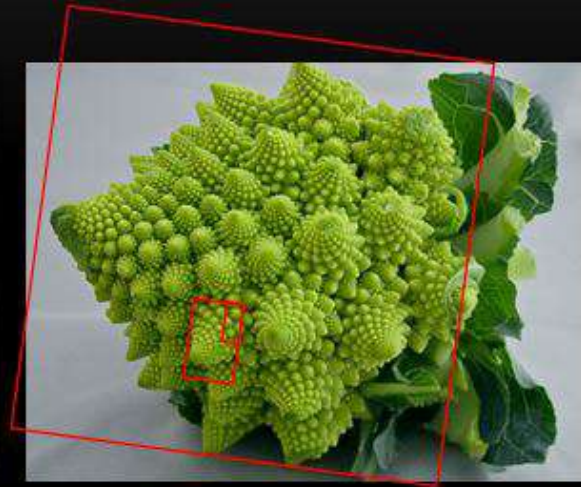
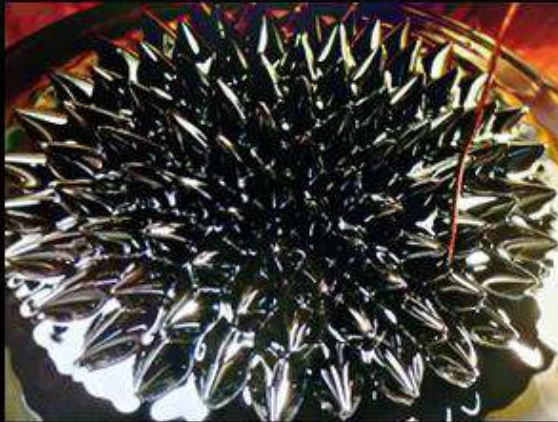




4 soap bubbles and their shared surfaces (magnetic bloch wall) forming a tetrahedron symmetry.

NATURE, SPIN & FRACTALITY

A magnet under ferrofluid - Magnetites





STRONG MAGNET & FERROFLUID

SCALED PATTERN REPETITION, FRACTALITY

Energy Transition, pattern repetition.
Fractality



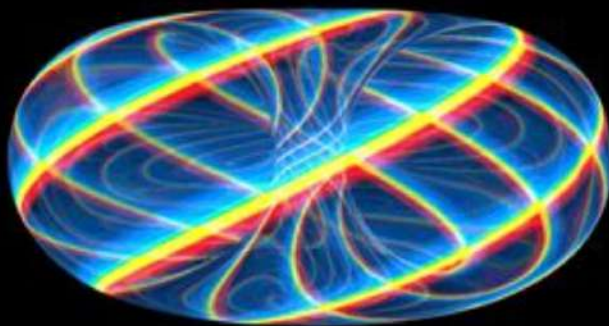
A resonant energy field with a quantized harmonic transition (geometric pattern transition).

NATURE'S FRACTAL ENERGY – FUNDAMENTAL VIBRATION ETHER, MAGNETIC FIELDS & DIELECTRIC ZERO POINT POTENTIAL



Nature's energy – Fractal mathematics

WHAT CREATES GEOMETRY IN NATURE?

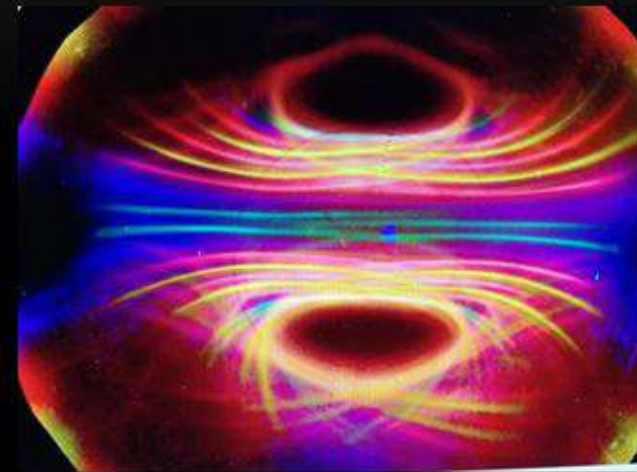
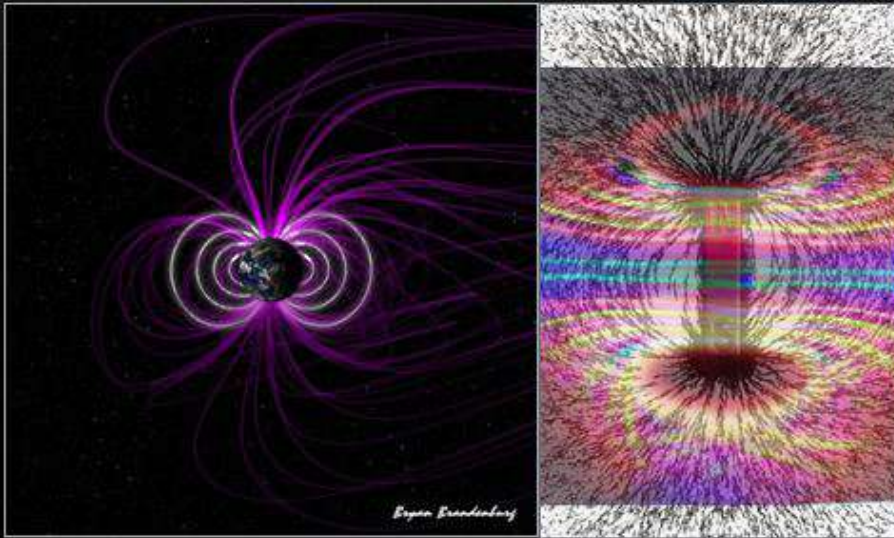


Toroid Energy Flow
Divine Symmetry

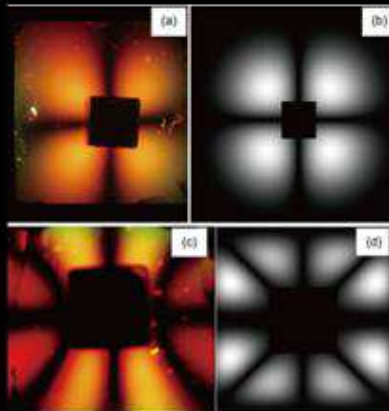


Resonance

MAGNETISM, TOROIDAL SYMMETRY?



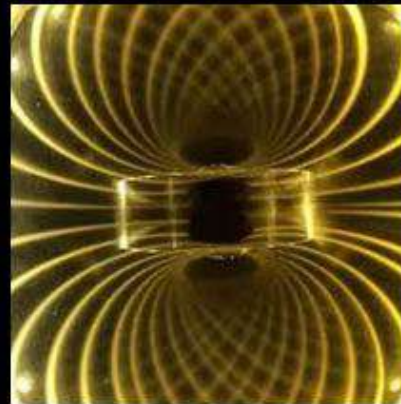
The two fields overlapped – the 3 dimensional picture of energy potential distribution.



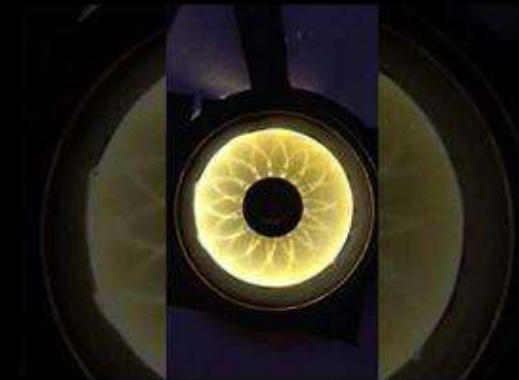
Magnet Monopole (a,b)

Magnet Dipole (c,d)

polarized light



3 dimensional holographic symmetry
seen through ferrocell (white light)



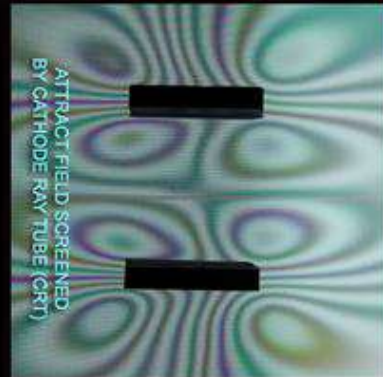
Magnet, Ferrocell

polarized filter

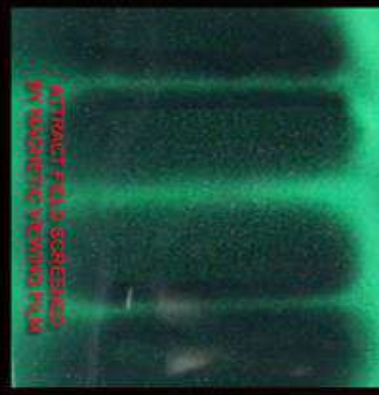
MATTER (RESONANCE)

MAGNETISM, LIGHT & ELECTRICITY (VIBRATION)

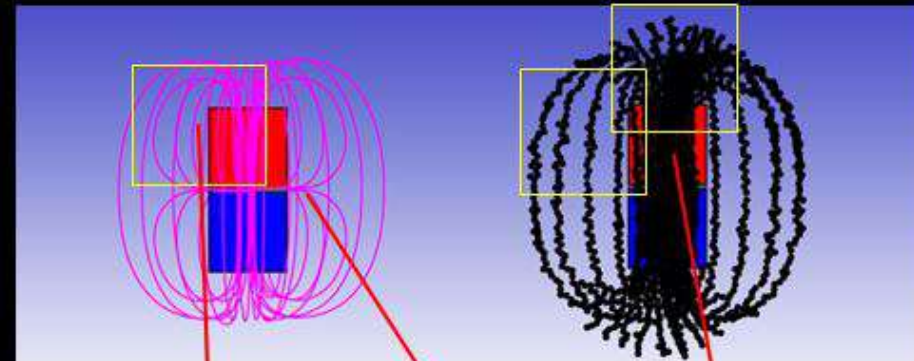
Magnetic field
CRT Screen



Magnetic field
Viewing Film



Magneto-Dielectric
Vibration (100%)

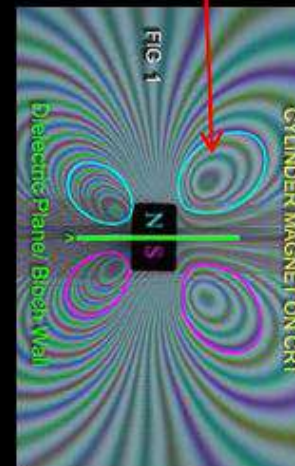


Magnetic line of force (4%)
Hidden Secrets

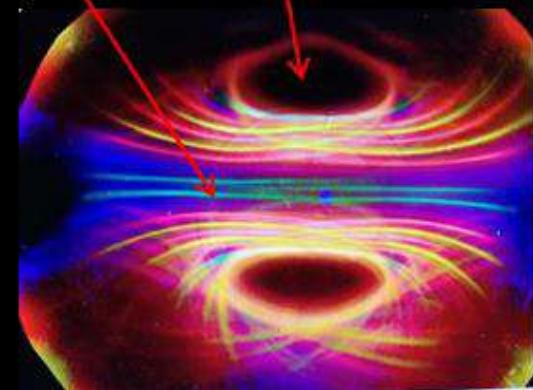


Dielectric Inertia Plane (Bloch Wall)
Centrifugal & Centripetal Vortecies

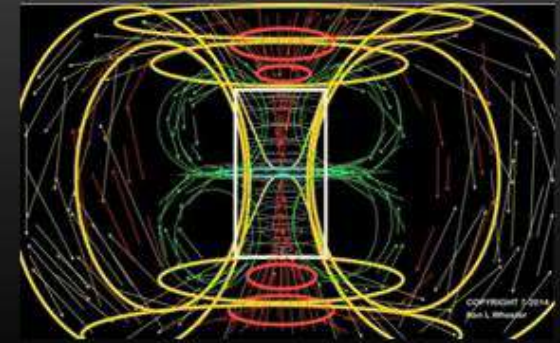
«Electrons», CRT



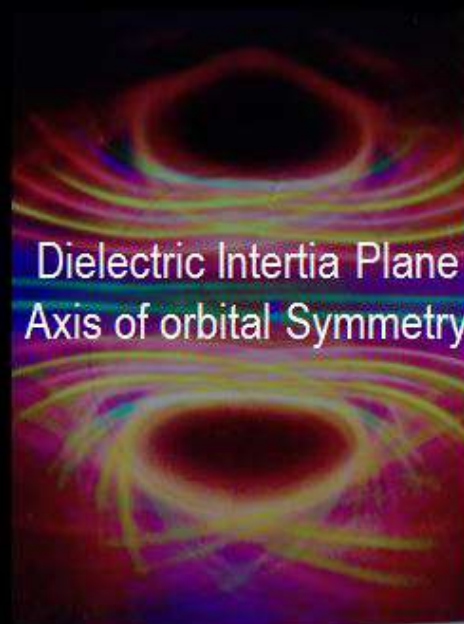
Hidden secrets
«Light», Ferroc cell



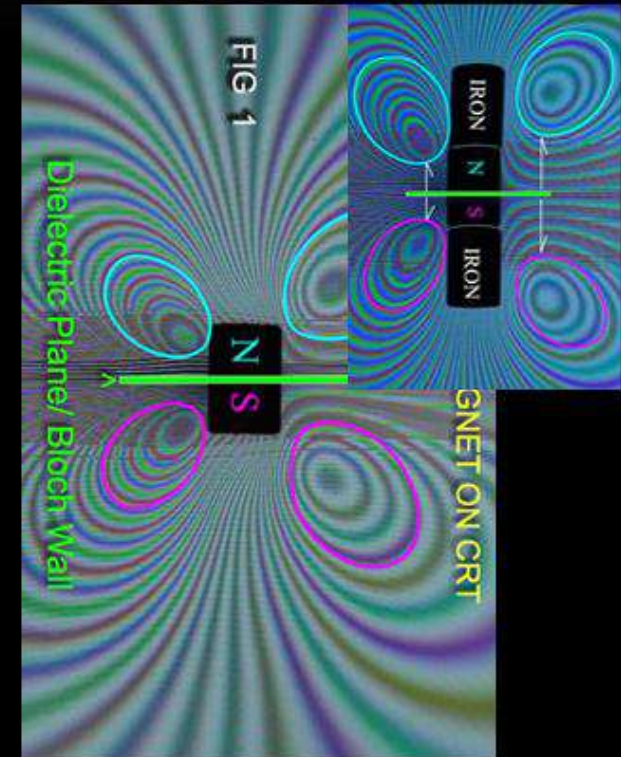
MATTER, LIGHT & ELECTRICITY IN RELATION TO MAGNETISM



Zero Point Symmetry



Dielectric Inertia Plane
Axis of orbital Symmetry



Iron filings (become magnetized!)

Light, Photons

Electricity, Electrons

Always visible
Hidden magnetic dynamics

-----Only visible in presence of energy-----

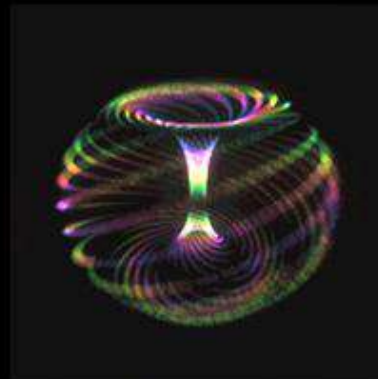
One Toroid

Two Toroids

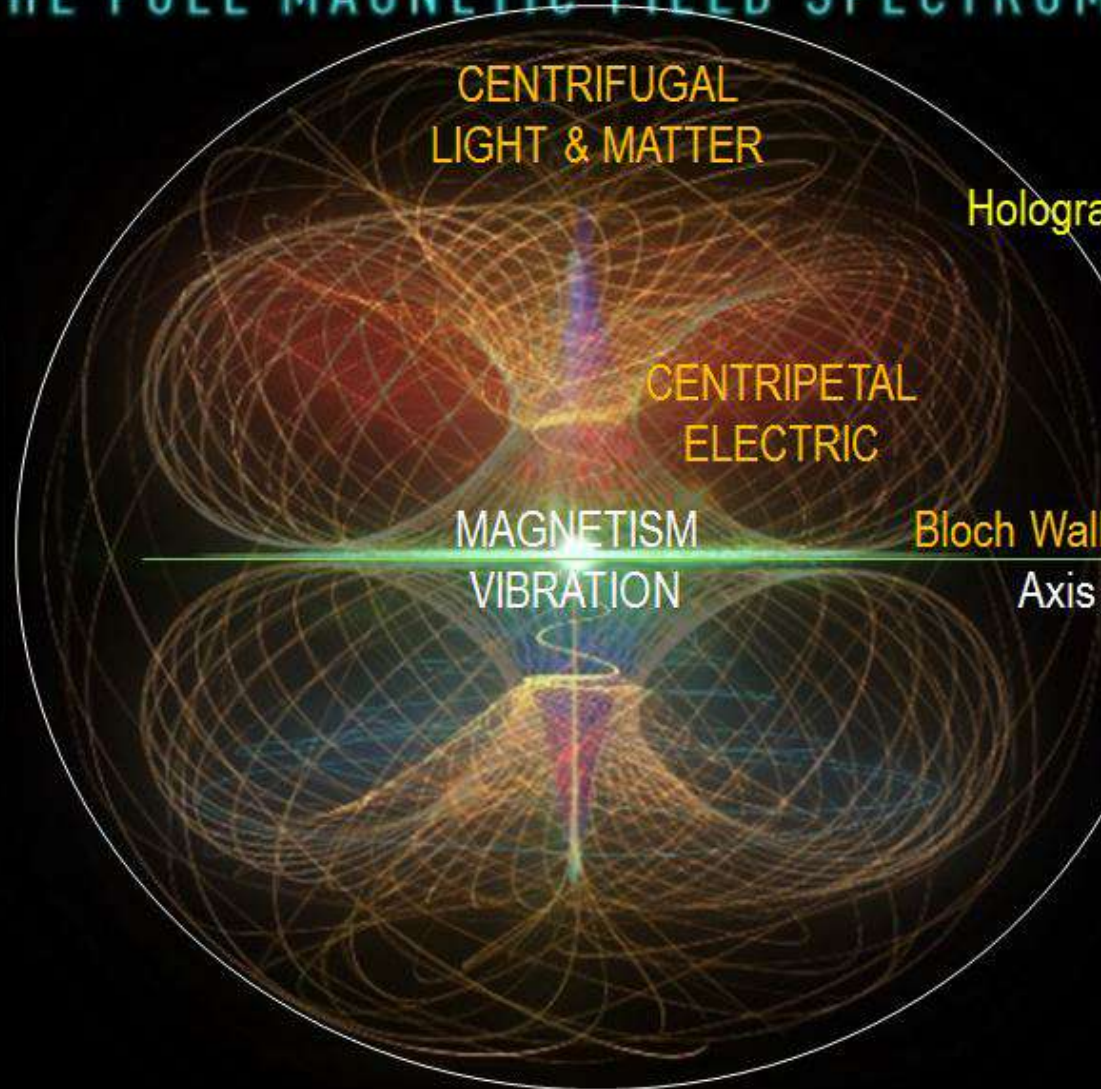
MAGNETISM

THE TOROID - NATURE'S VIBRATION BLUE PRINT

THE FULL MAGNETIC FIELD SPECTRUM



Toroidal
Symmetry

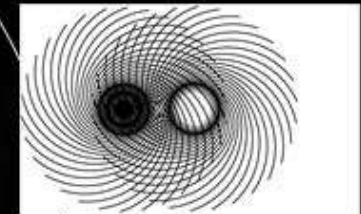


CENTRIFUGAL
LIGHT & MATTER

CENTRIPETAL
ELECTRIC

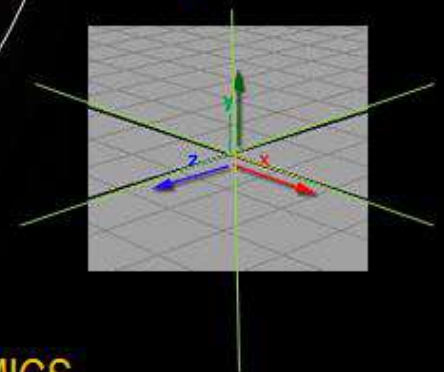
MAGNETISM
VIBRATION

Moirée pattern
Holographic Dielectric Bloch Wall



Bloch Wall – Dielectric Inertia Plane
Axis of Orbital Symmetry

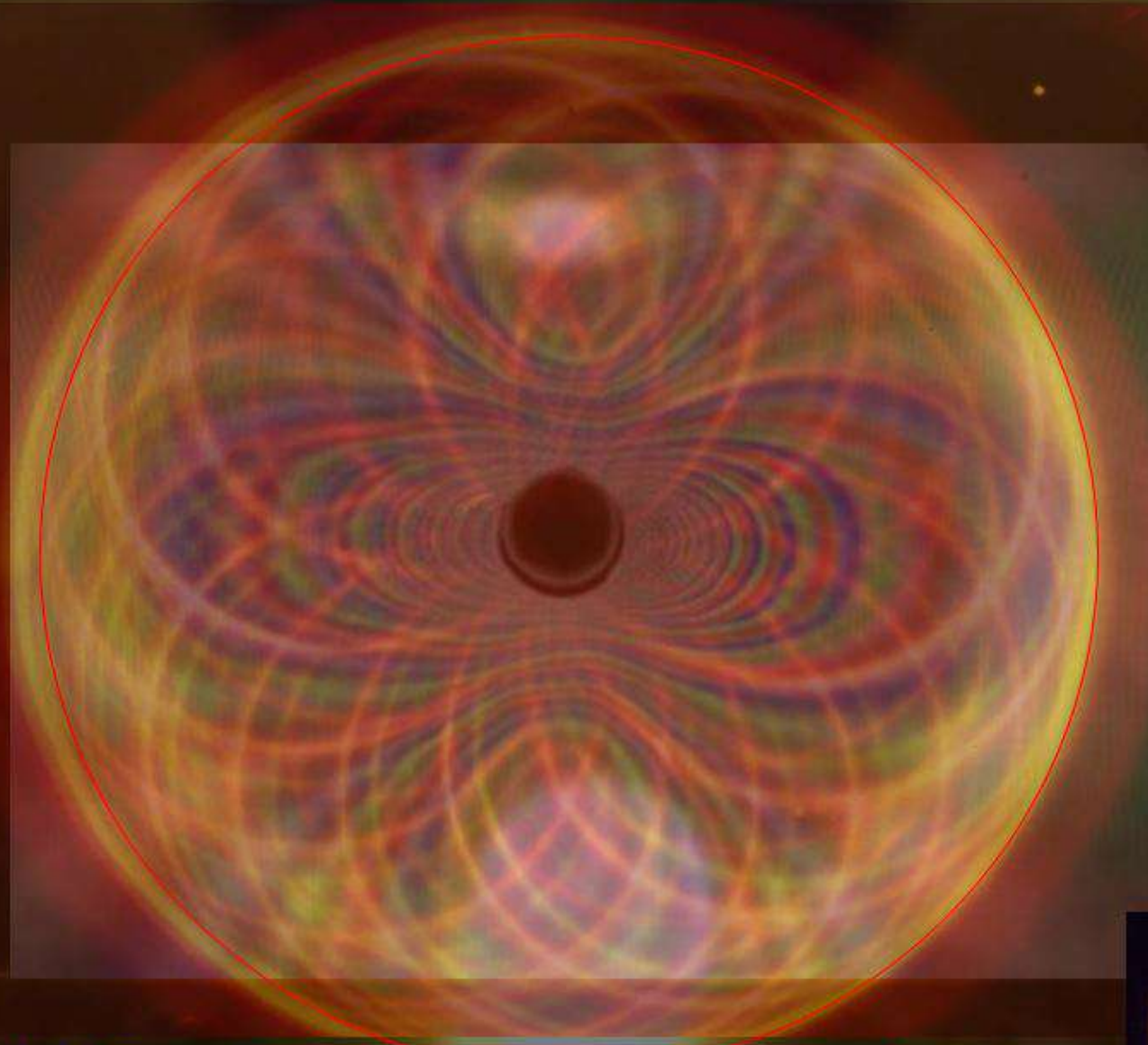
2D Projection



MAGNETISM - TOROIDAL ENERGY/ VIBRATION DYNAMICS



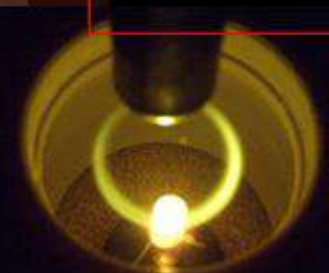
MAGNETIC POLE, ELECTRICITY & LIGHT



Hydrogen Electron Orbitals
Probability Density

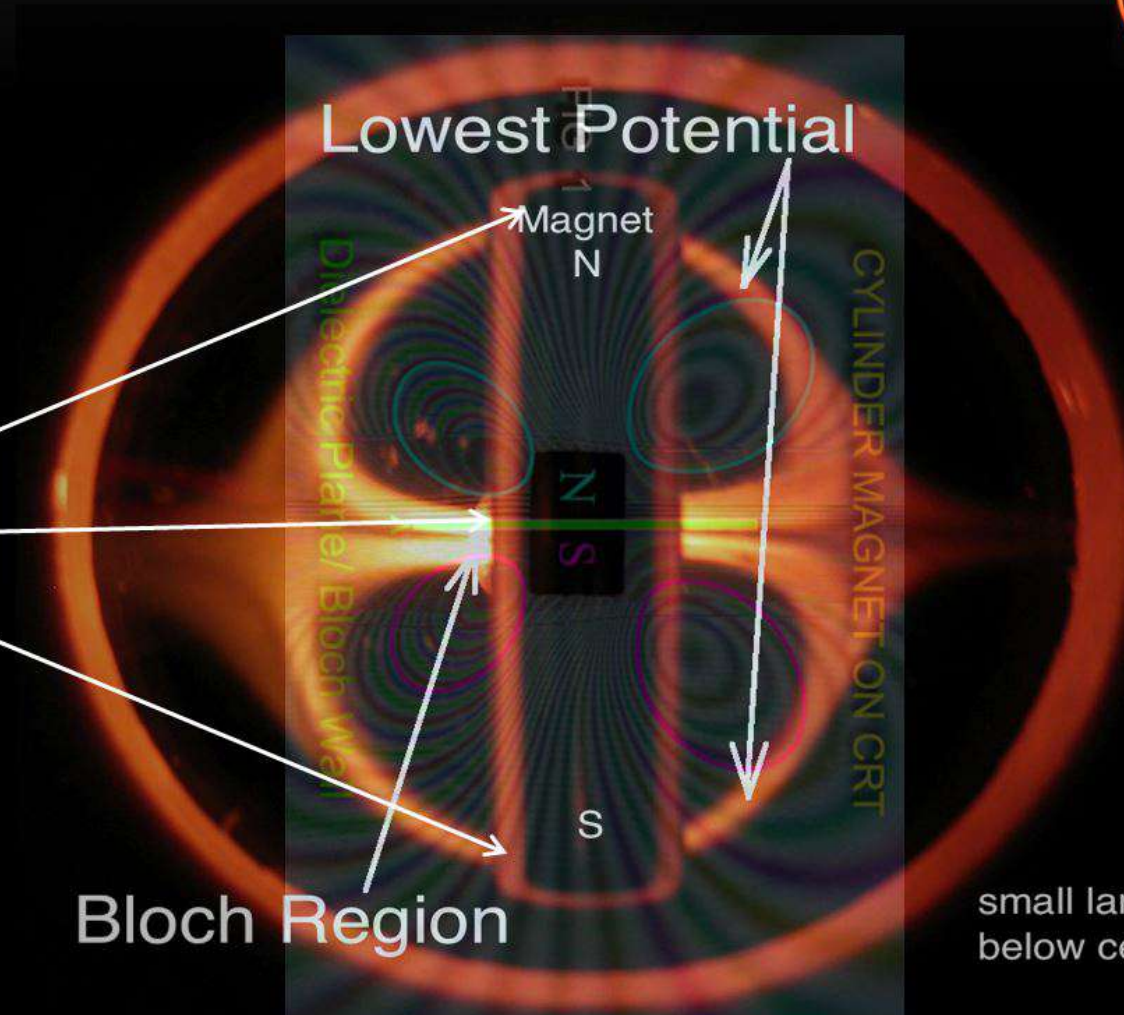
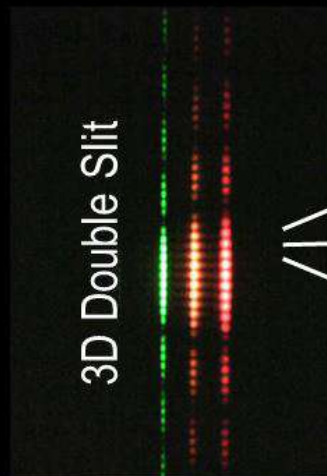
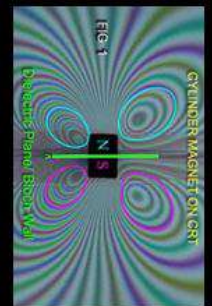
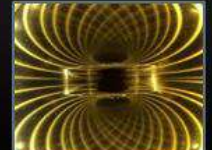
$$\psi_{nlm}(r, \theta, \varphi) = \sqrt{\left(\frac{\rho}{r}\right)^3 \frac{(n-l-1)!}{2n(n+l)!}} e^{-\rho/2} \rho^l L_{n-l-1}^{2l}(\rho) Y_l^m(\theta, \varphi)$$

$$\rho = 2r/na_0 \quad \text{darksilveryflame.deviantart.com}$$



CRT & Ferrocell visualization of exposed magnetic pole overlapped

MAGNETIC DIPOLE, ELECTRICITY(CRT) & LIGHT (FERROCELL)



Emitter Source behind (Light bulb, CRT)

TOROIDAL ENERGY DYNAMICS



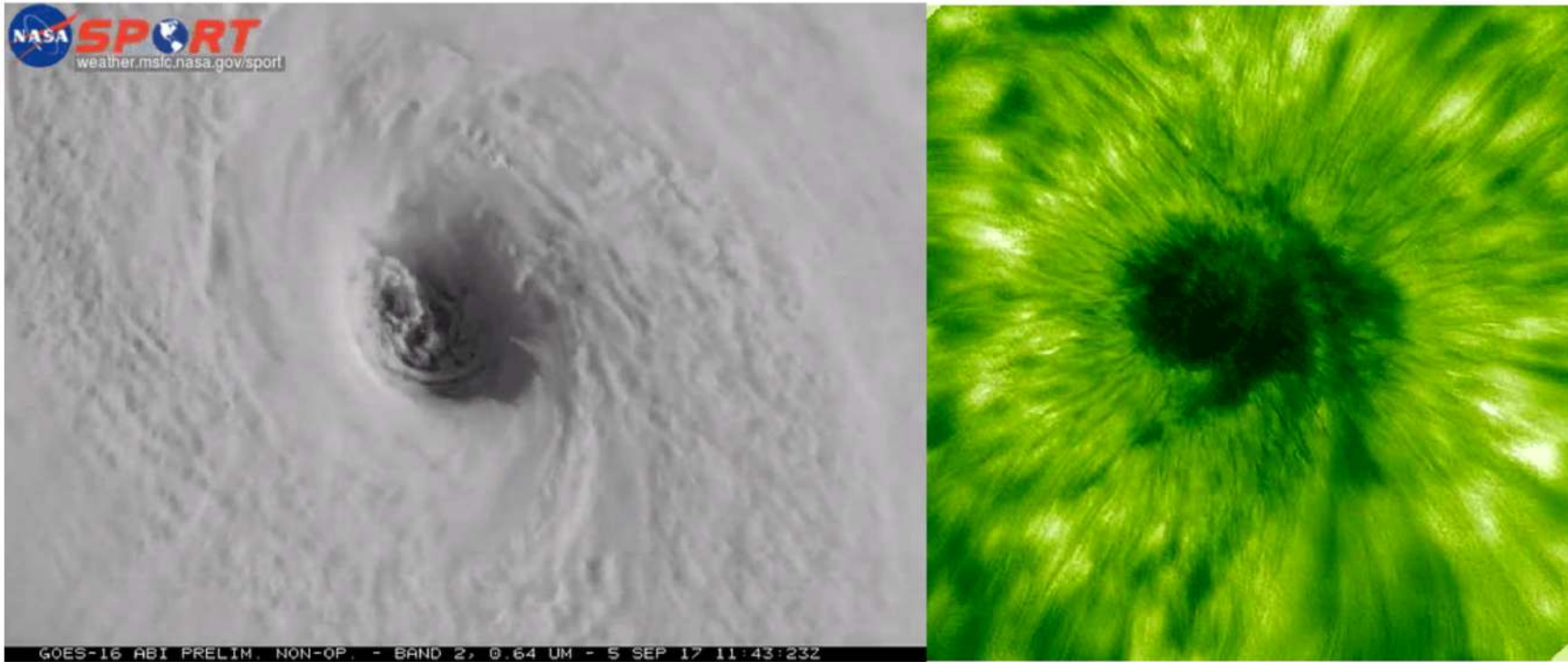
*Notice how the pattern of the hydrogen atom's electron shell looks exactly like a magnet seen through ferrocell (right vs mid image), while the sundog (left image, atmosphere, **non-magnetized “normal” matter**) does show an additional 90° -phase shift!*

*A permanent magnet and the electron shell look exactly alike, just on different scales. **Is the electron a tiny permanent magnet? How are permanent magnetic fields and electrons related? Electrons are permanent moving charge, creating permanent magnetic fields.***

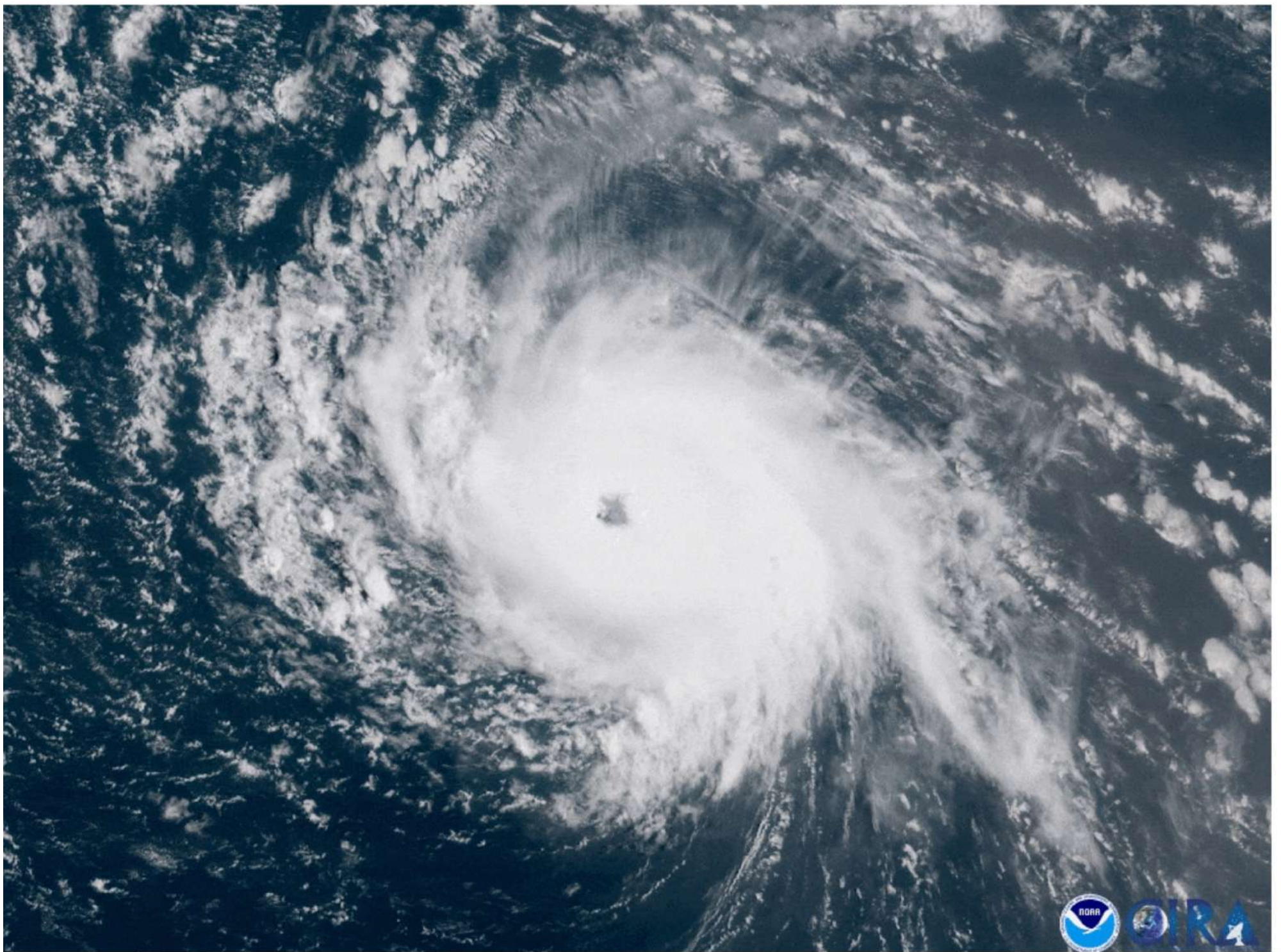
How is light related to permanent magnetic fields? Virtual photons?

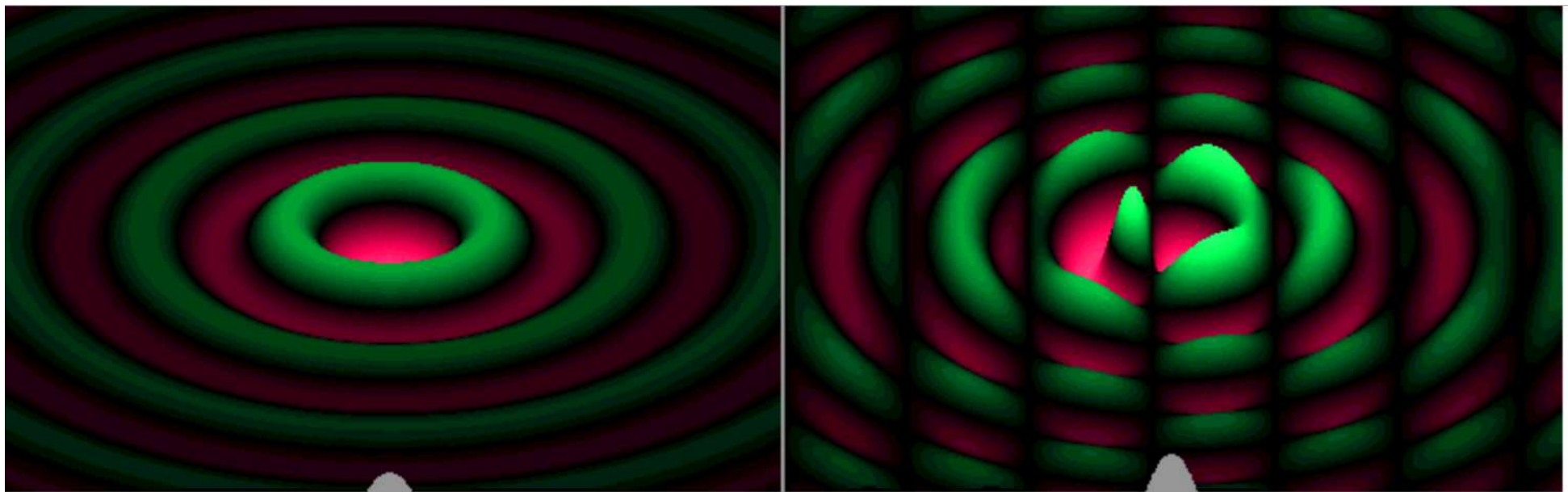
Why does non-magnetized (non-coherent) matter of sundog show an additional 90° phase shift compared to ferrocell (permanent magnet, coherent matter)?

Could the electron shells be fractal, toroidal, dielectro/electrostatic-magnetic?



Analogy of di-electromagnetic energy dynamics of a hurricane eye and a sunspot eye. An opposed spin equilibrium.





L'onde de LaFrenière

$$x = 2 * \pi * \text{distance} / \text{lambda}$$

$$\text{Rotation } y = (\sin(t + x) - \sin(t)) / x$$

$$v = 0.5 c$$

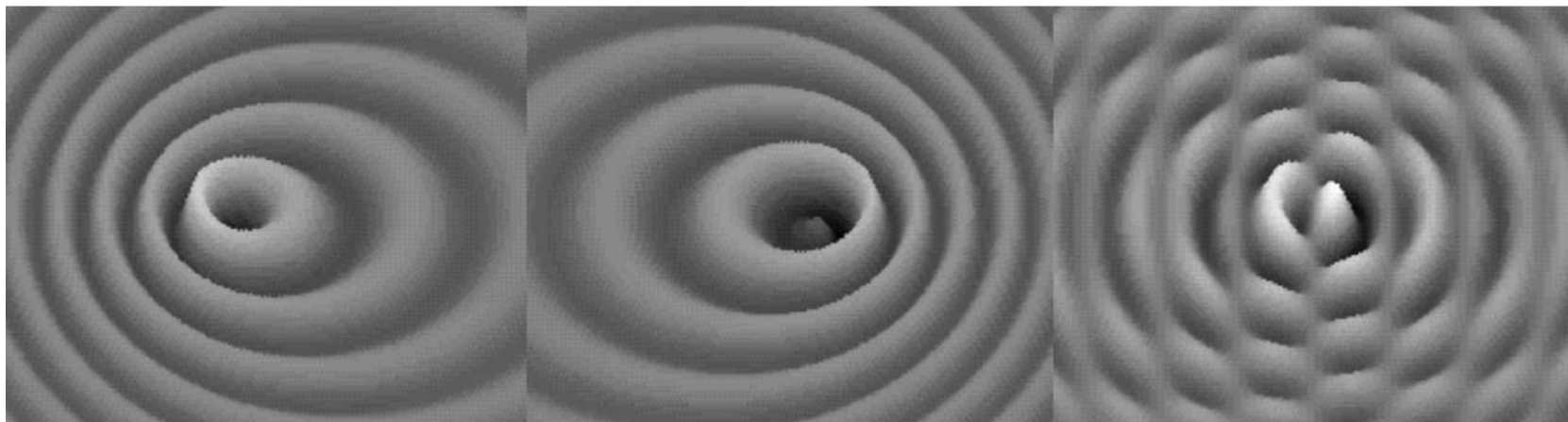
16

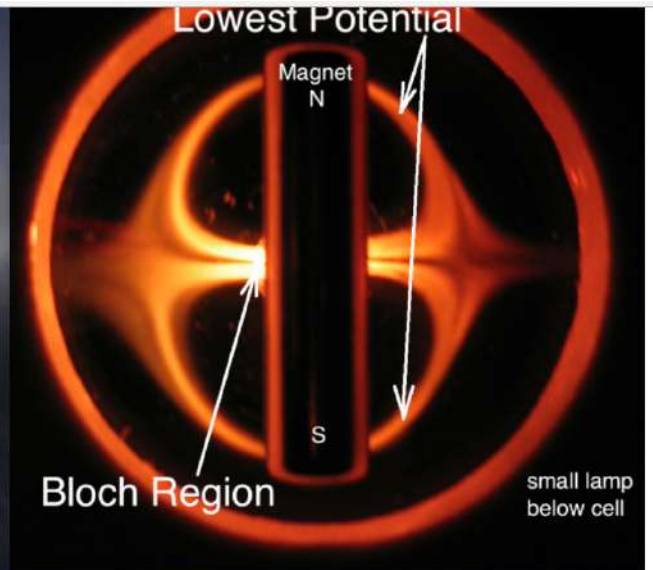
LaFreniere's wave

$$\text{Phase } y = \sin(x) / x$$

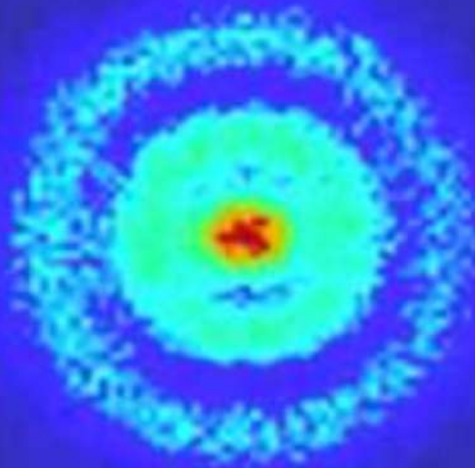
$$\text{Quadrature } y = (1 - \cos(x)) / x$$

glafreniere.com



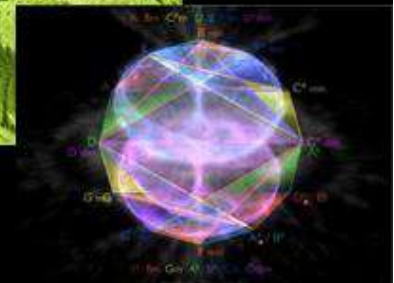
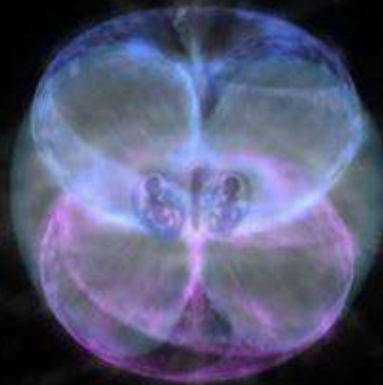


This is a hydrogen atom.



This photograph shows the atom's electron orbital - the first time we have ever been able to observe the wave function of an atom. To capture this image scientists used a quantum microscope, a device capable of seeing into the quantum realm.

ENERGY – FRACTAL TOROIDAL DYNAMICS OVER ALL SCALES, IN EVERYTHING



CLOUDS - TOROIDAL VIBRATION INTERFERENCE



LINEAR & TURBULENT TOROIDAL MOTION

Toroidal Spin Resonance



When **vibrations align** (as in creation of a magnet, all spins get in sync), toroidal field gets **projected** in scale, amplified over single atomic orbital barrier, many atoms acting in sync, as one macro object.

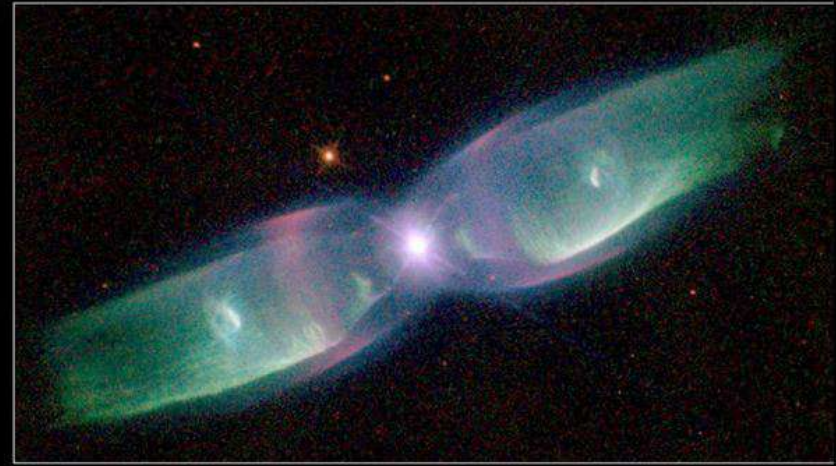


COSMIC SCALE TOROIDAL ENERGY DYNAMICS

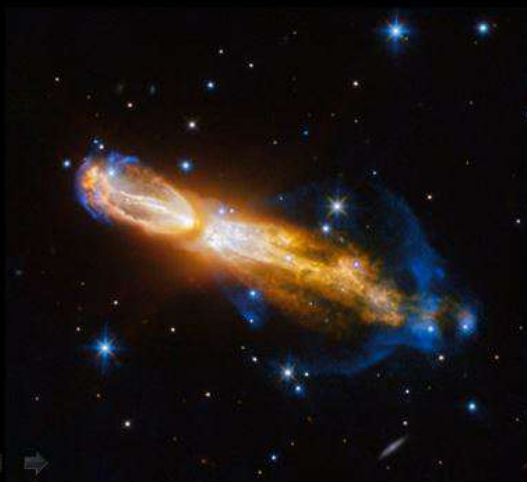
Starforming Region S106 (NASA)



The Hourglass Nebula



Planetary Nebula M2-9
Hubble Space Telescope • WFPC2

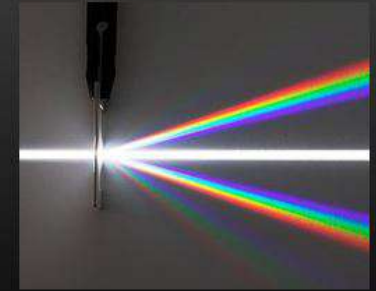


LIGHT & THE FRACTAL TOROID



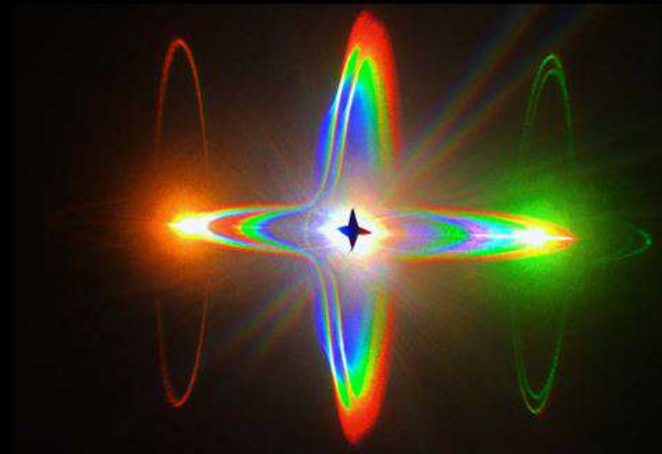
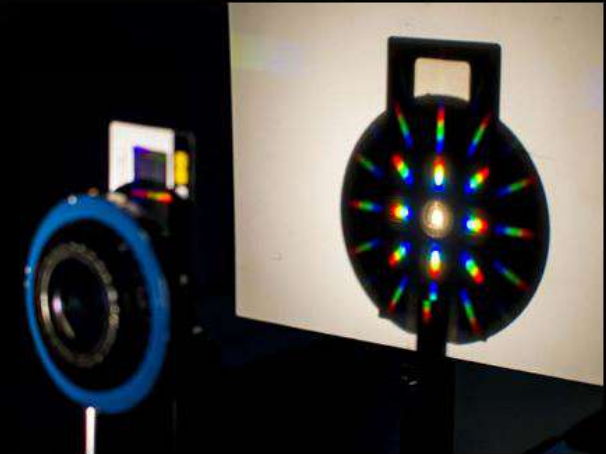
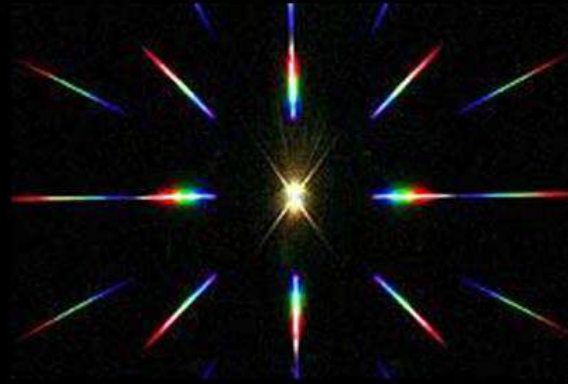


FRACTAL MAGNETIC VIBRATION LIGHT & DIFFRACTION PATTERNS



From blue to red diffractions
(decreasing energy over distance)

White light in center
Rainbow at distance



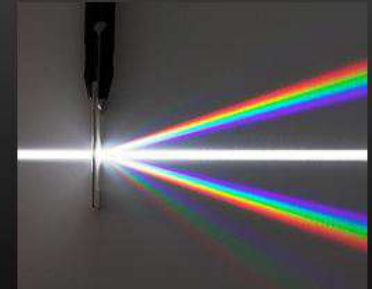
Supercontinuum light spectrally
Modulated by acoustic waves

LED strip and glass sphere

Laser & hyperbolic prism
Selfsimilarity of Light diffractions



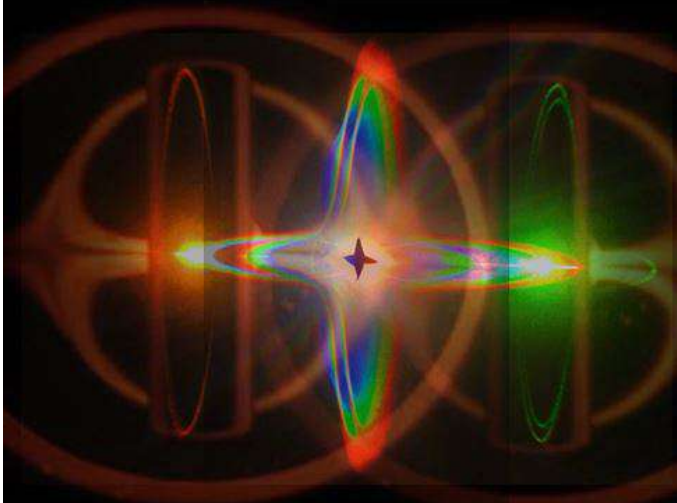
FRACTAL MAGNETIC VIBRATION LIGHT & DIFFRACTION PATTERNS



From blue to red diffractions
(decreasing energy over distance)



White light in center
Rainbow at distance



Supercontinuum light spectrally
Modulated by acoustic waves

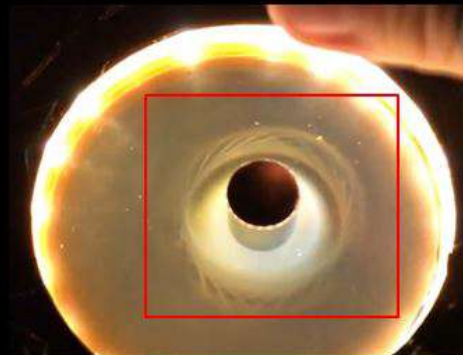


LED strip and glass sphere



Laser & hyperbolic prism
Selfsimilarity of Light diffractions

MAGNETIC ATTRACTION – FERROCELL & PLANE OF LIGHT



Magnetic attraction, Plane of Light
Ken L. Wheeler

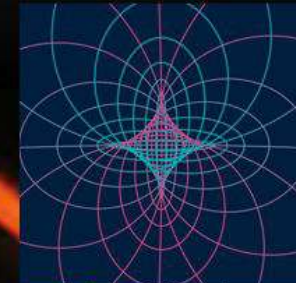




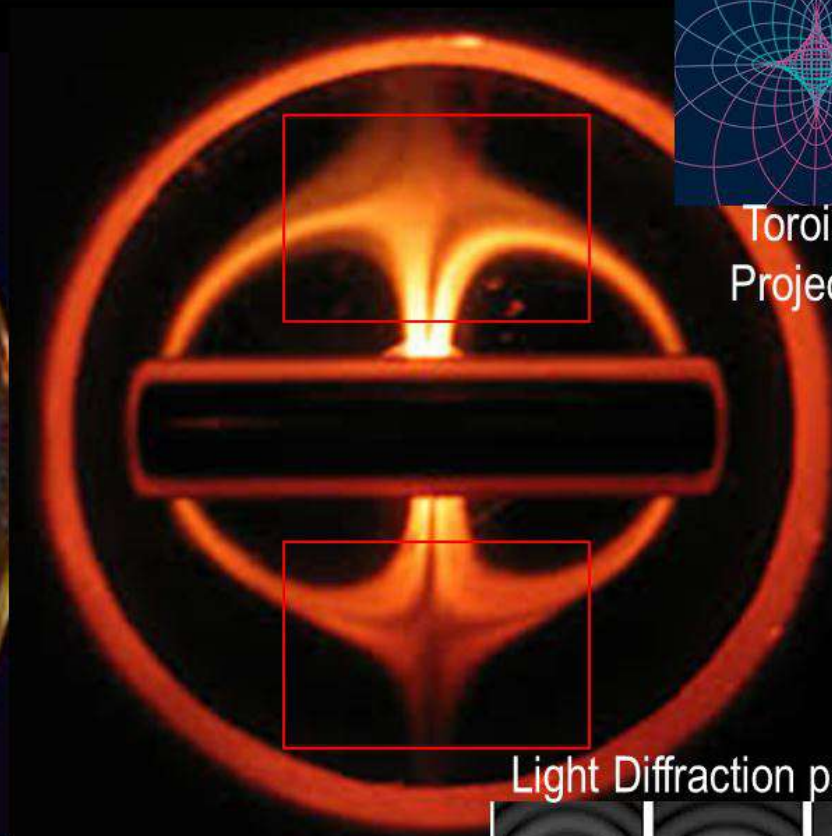
CENTRIFUGAL FRACTAL 3-DIMENSIONAL TOROIDAL PULSE «LIGHT»



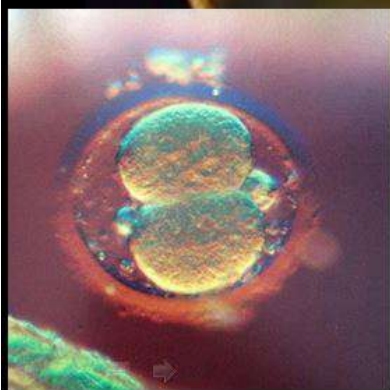
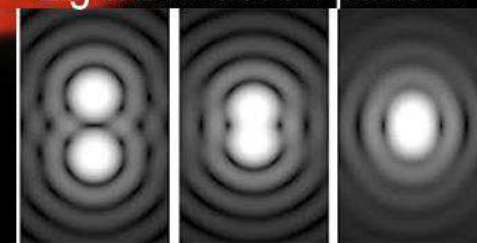
Pattern Repetition - Fractality



Toroidal
Projection

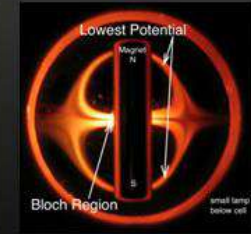


Light Diffraction pattern



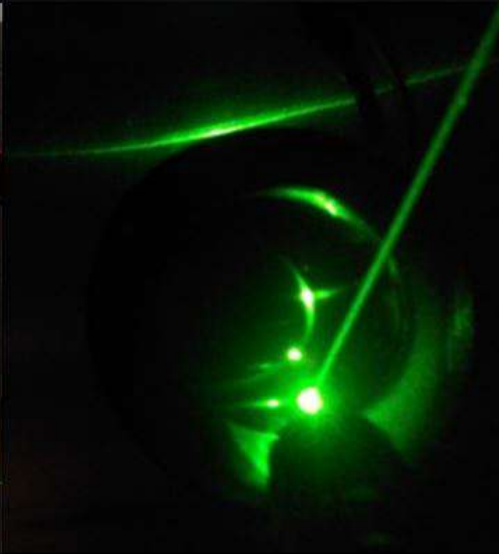
Permanent Magnet and Ferrocil
with 90° different lighting angle

LIGHT A 3-DIMENSIONAL PULSE

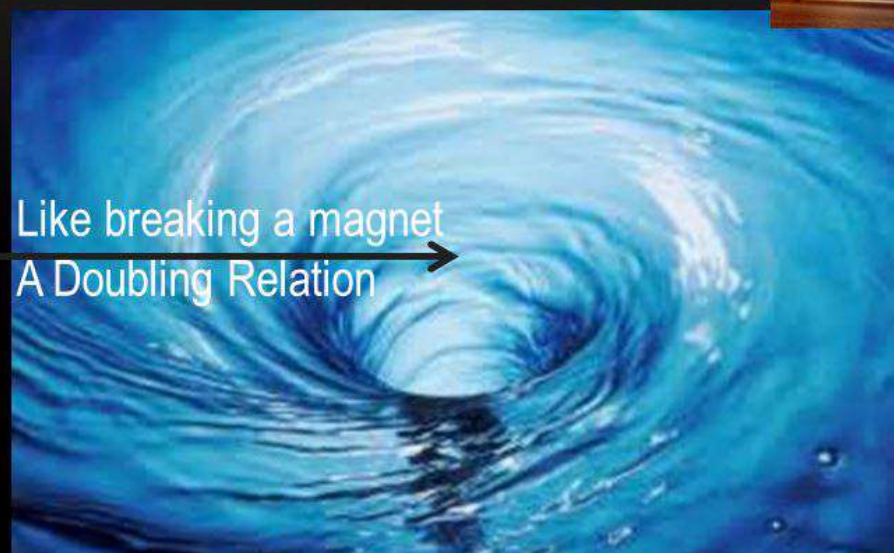
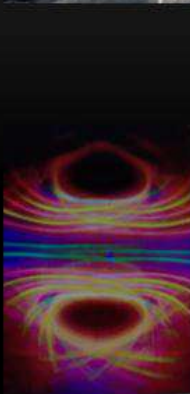


Only in presence of an energy such as light & Magnetism, this hidden field gets visible.

FERROCELL, MAGNET & LASER DIFFRACTION



FRACTAL TOROIDAL VORTECIES CENTRIFUGAL & CENTRIPETAL SPIN



Like breaking a magnet
 A Doubling Relation

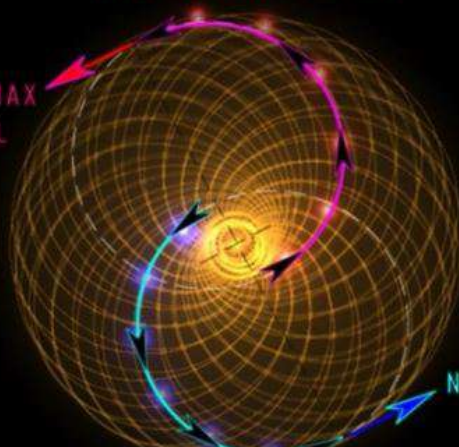


CENTRIFUGAL FORCES

CENTRIPETAL (DECAYING) PRESSURES



SOUTH MAX
ACCEL

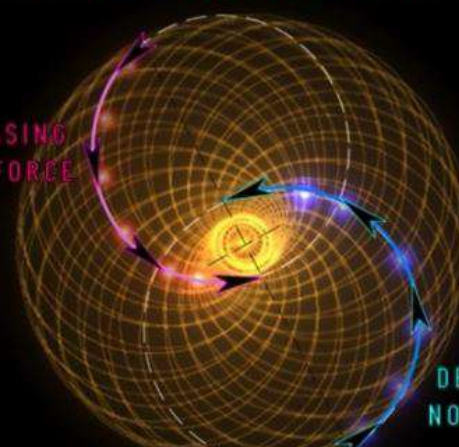


NORTH MAX
ACCEL

CENTRIFUGAL SPATIAL PRESSURES ARE THE MAGNETISM
DRIVING POWER FOR ALL DIFFERENT LEVELS OF FORCE

Light (centrifugal, radiation) #the Ferrocell

DECREASING
SOUTH FORCE



DECREASING
NORTH FORCE

CENTRIPETAL PRESSURES ARE DRIVEN TO THE CENTER
DIELECTRIC INERTIAL FIELD'S ATTRACTING FORCES

Electricity (centripetal, pressure sink) #CRT

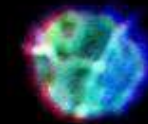


NORTHERN LIGHTS - PLASMA ELECTRICALLY EXCITED MATTER



Centripetal Toroidal
Vibration Dynamics

SOUND AND ITS CONNECTION TO ELECTRIC & MAGNETIC FIELDS: LIGHT & GEOMETRY



SIRIUS
#SONOLUMINESCENCE



SONOLUMINESCENCE

SOUND CREATING LIGHT & GEOMETRY



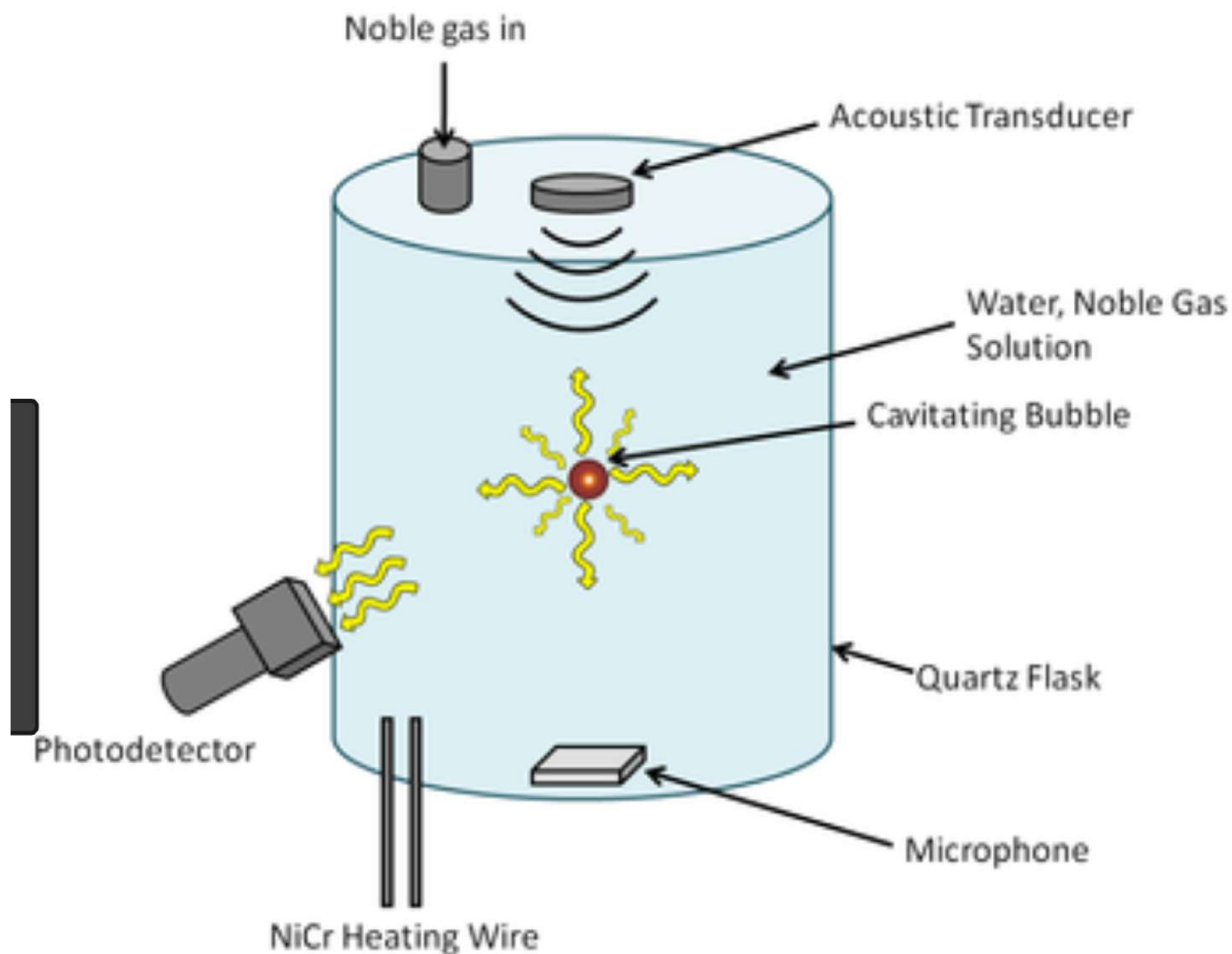
understand the connection between”alignment of spin”, which is what happens when a permanent magnet is created. Electrons are aligned relative to each other, which as effect amplifies their spin wave pattern into macrocosmos as a magnetic and electrostatic field. Just like many small permanent magnets can fuse their fields forming one large macroscopic resulting field. This is how a billion electrons form macroscopic, complex geometric patterns. “Sticky electrons/permanent magnets” fuse their force, resulting in one dominating macroscopic field geometry. During this process, nothing is changed about the net amount of matter, only electron spin alignment is changed. There is an infinite amount of different ways spins can be aligned/oriented relative to each other. **Spins are relative to each other is how nature encodes information.**

Its all about the collective. How the many spins are relative to each other and their resulting electromagnetic/magneto-dielectric field symmetry and macroscopic standing wave pattern. At least two spins are required to create this effect. Electrons wobble around their spin axis (spin precession). This wobbling can be transmitted from one electron to the other, like a wave. If billions of electrons align their wobbling wave-motion, the collective electron spin precession information is amplified into macroscopic standing wave patterns of electromagnetic/magneto-dielectric fields. Just like Fibonacci suggests, one spin precession information relative to its neighbour. One number relative to the other, the only mathematical row that is defined by two numbers instead of 3, because the conjugation of electron spin alignment and resulting macroscopic permanent magnetic electrostatic field symmetry and standing wave pattern is elegantly simple.

Side-remark: Currently, we are living the electric revolution, and it just started 😊

Nature’s creation: Lets use the BigBang energy analogy. At the beginning, all energy is concentrated to a point singularity. This point is an infinite dielectric/electrostatic potential, a voltage without dimensional footprint. This electrostatic point potential can be decharged into electric current, which induces a magnetic field.

*Oscillating electrostatic, electric- & magnetic fields. There are **moving electromagnetic waves** (Photons & Electrons) or **standing permanent magneto di-electric potential**, resonance of the permanent magnetic field and its conjugated electrostatic field.*





Sound Into Light | UCLA Putterman


UCLA Putterman Research Group

Drop Tower Sonoluminescence

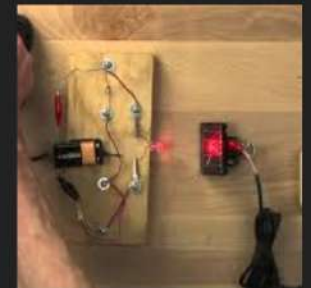
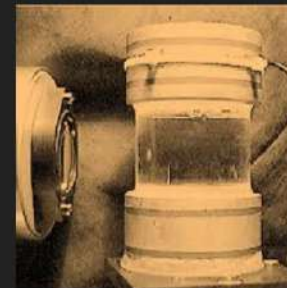
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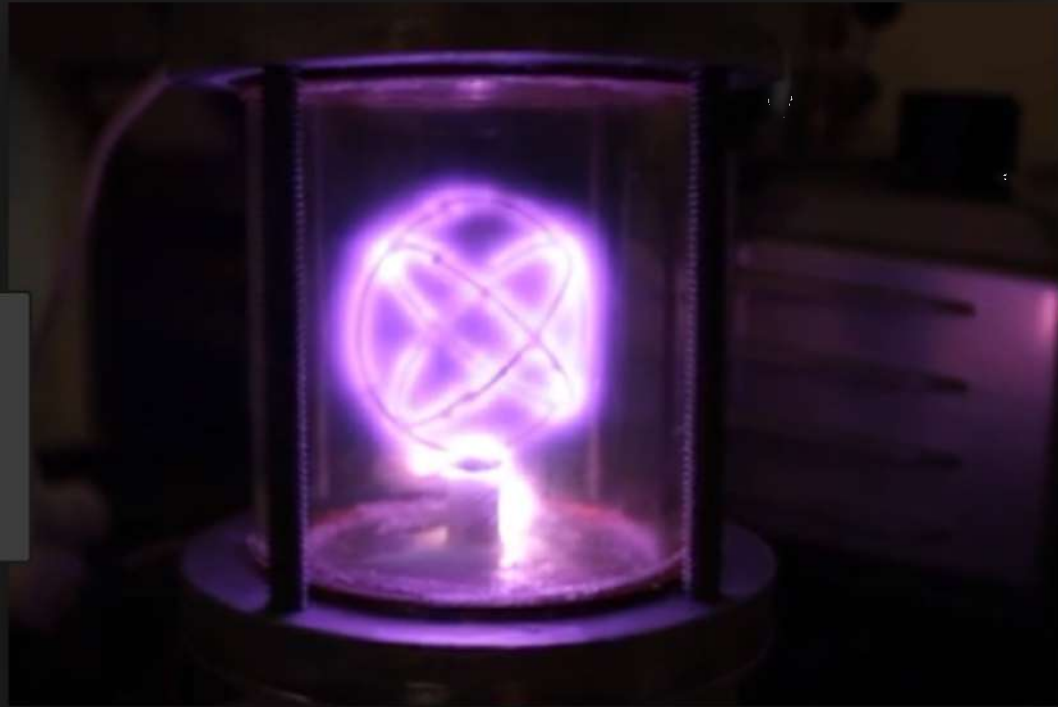
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Star in a Jar

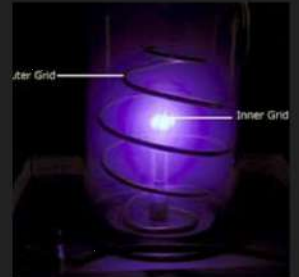
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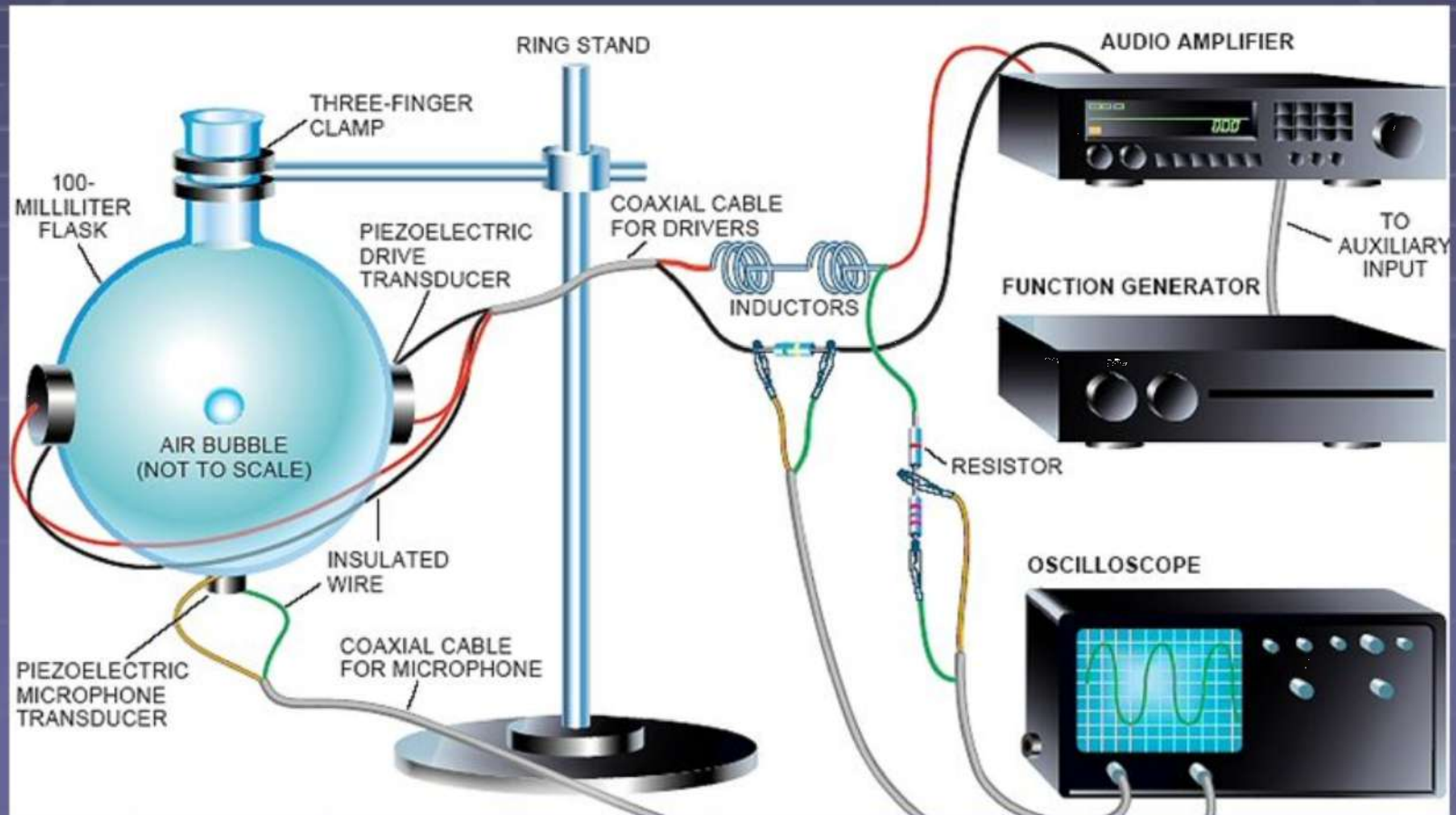
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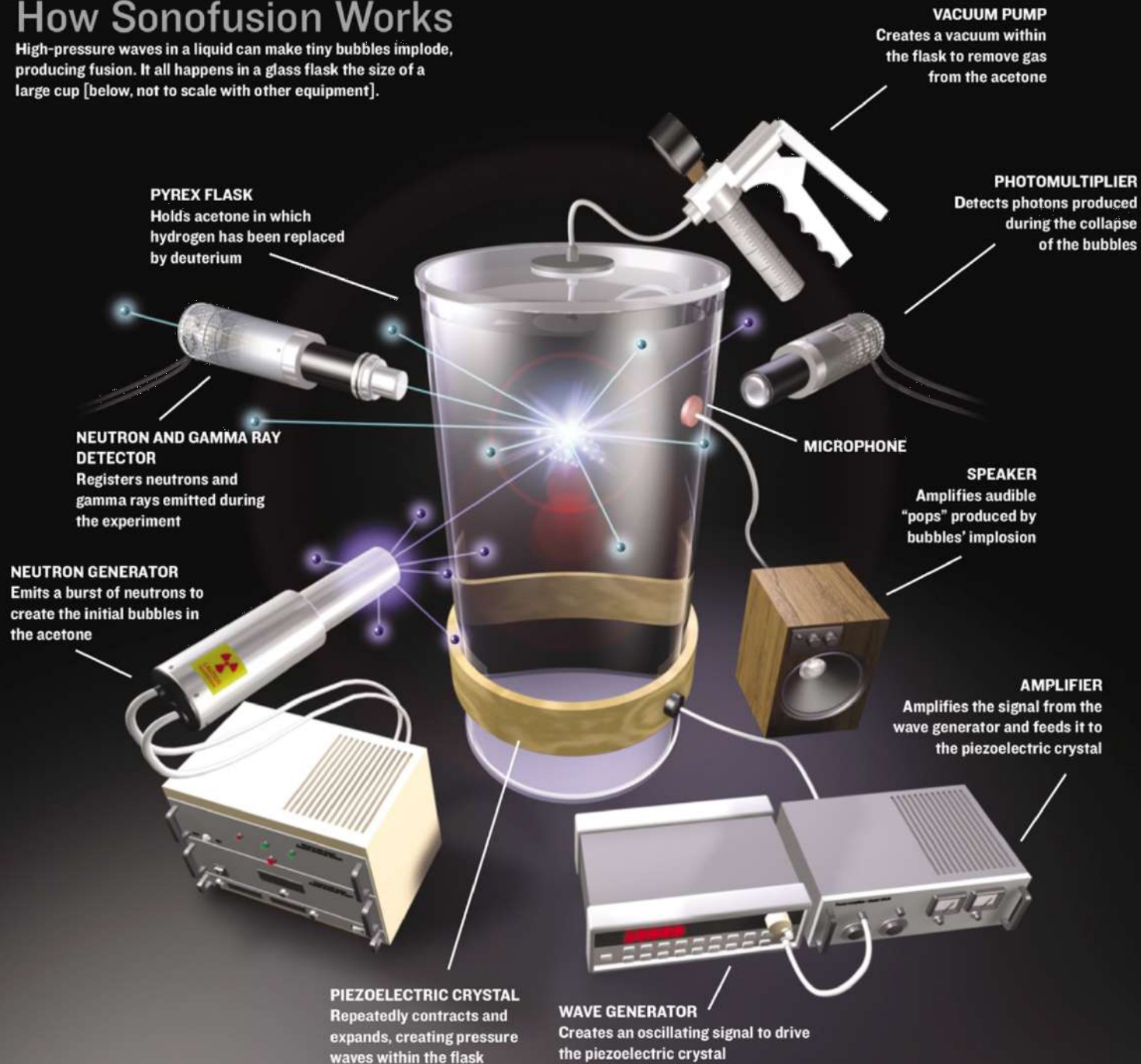
What is Sonoluminescence?

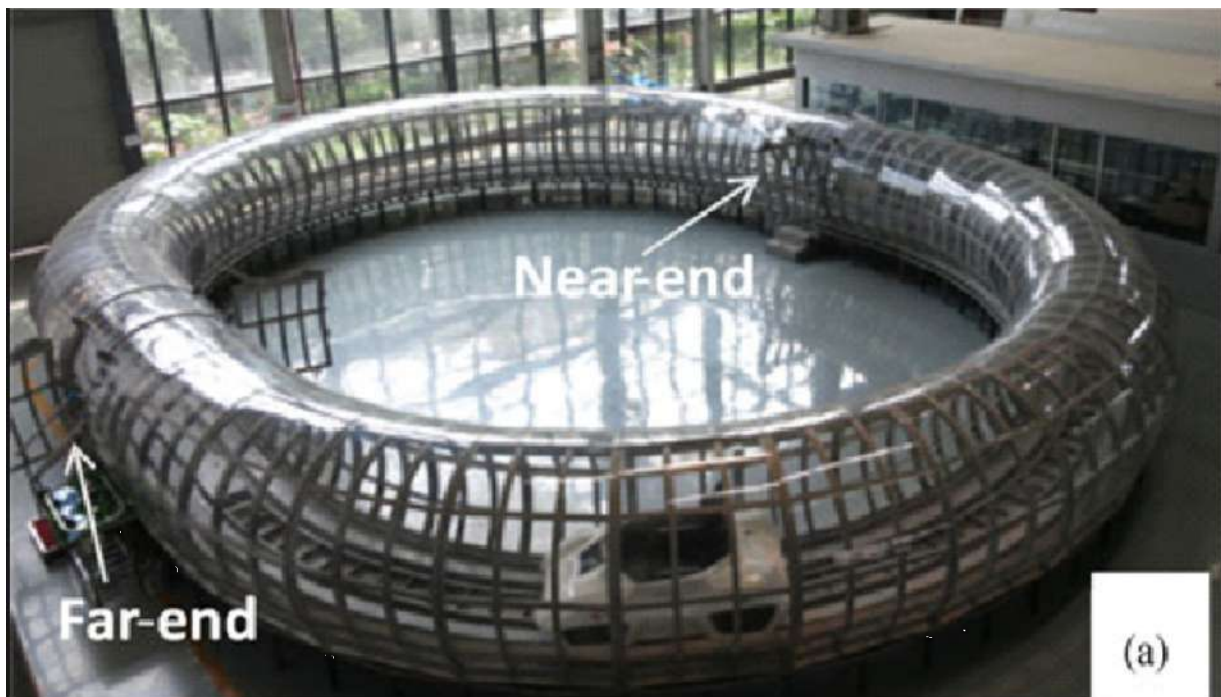
- The Equipment



How Sonofusion Works

High-pressure waves in a liquid can make tiny bubbles implode, producing fusion. It all happens in a glass flask the size of a large cup [below, not to scale with other equipment].





Bulk Superconductor Levitation D

Semantic Scholar

figure 1

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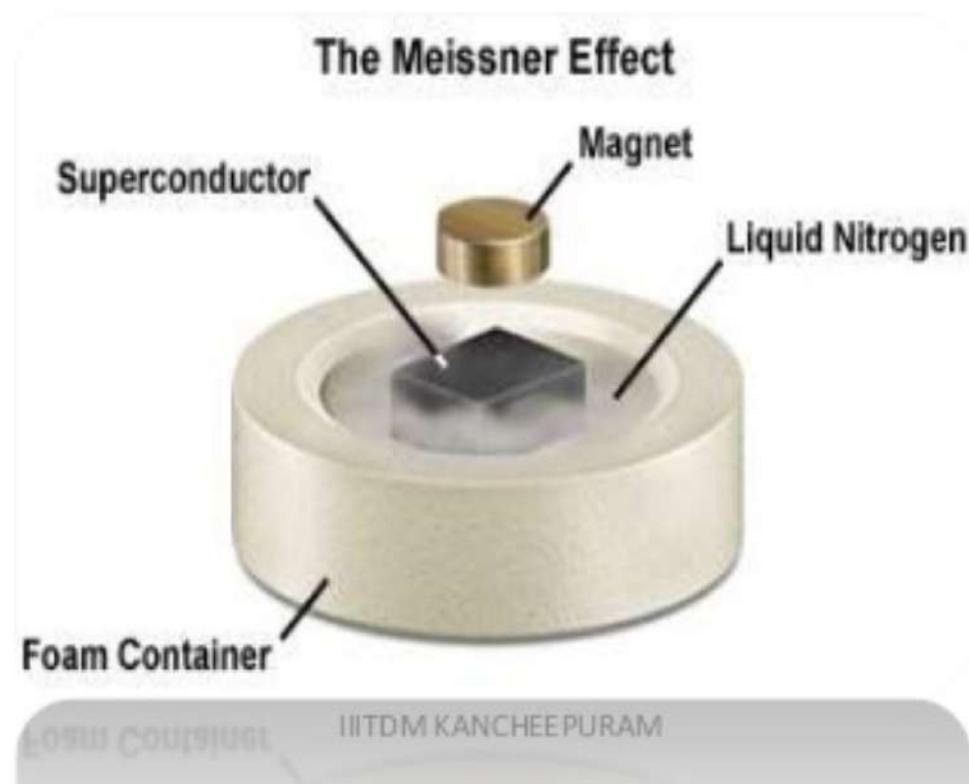
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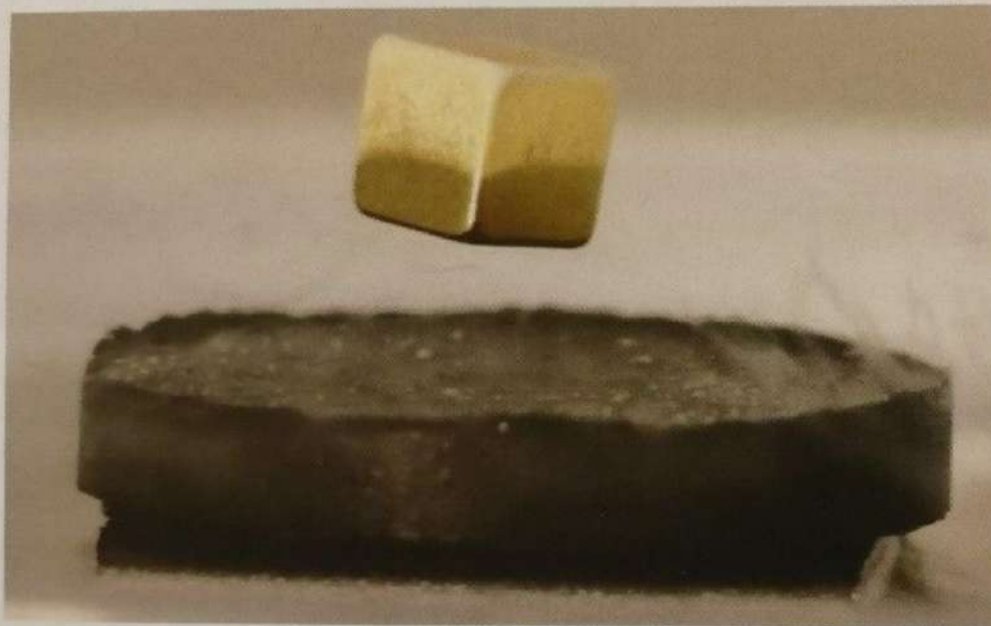
Superconductors

- It conducts electricity without resistance below a certain temperature i.e., 150K.
- In a closed loop, an electrical current will flow continuously.



Levitation Comparison Kit

Bismuth & Yttrium



CONTENTS:

- YBCO superconductor
- BSCCO superconductor
- Two rare earth magnets
- Non-magnetic tweezers
- Experiment Guide

Colorado Superconductor Inc.
2321 East Mulberry, #6, Fort Collins, CO 80524

WARNING

Liquid nitrogen and superconductive pellets may be dangerous if handled improperly. Do not use or handle liquid nitrogen or the contents of this kit without first reading and understanding the warnings, safety considerations, and handling instructions contained in the lab manual. Use at your own risk.

Copyright © 2004 Colorado Superconductor Inc.

ELEMENT 130 - CORBOMITE -TOTALLY STABLE ALIEN ELEMENT CAN NOT BE ISOTOPED WILL NOT EMIT GAMMA RAYS
CAN WITHHDSTAND 10,000,000 DEGREES FAHRENHEIT-GROWN IN 15 DIFFERENT CRYSTAL SYSTEMS - SAURIAN
REPTILLIAN



SUBSCRIBE NOW!

29:27 / 1:12:38



Phil Schneider Documentary of truth about Aliens & UFO's & our Government

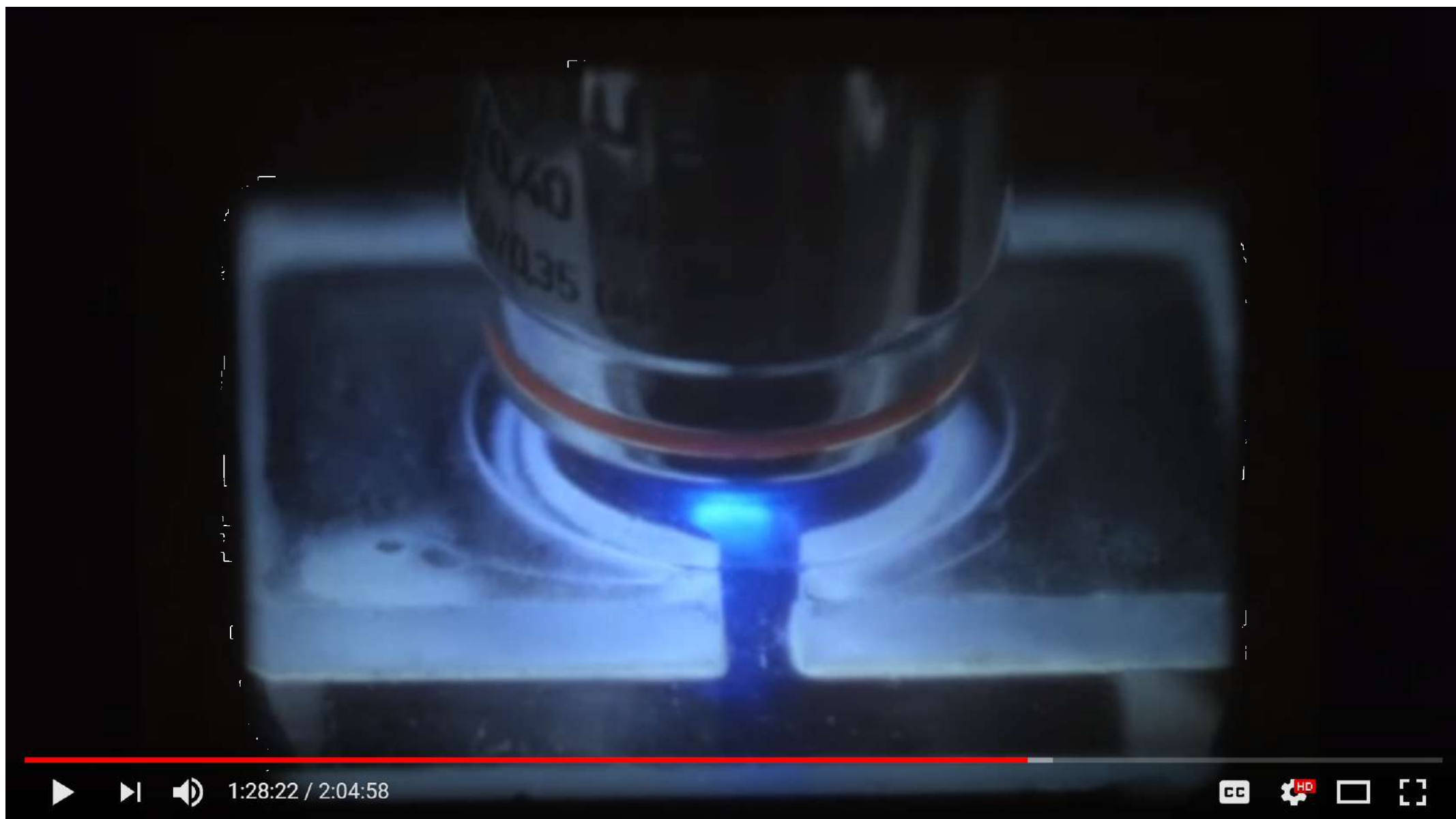
DESTROY NUCLEUS WITH ULTRAVIOLET LIGHT UNTIL NO GENETIC MAKE UP REMAINS



1:28:24 / 2:04:58



The Boys From Brazil 1978 (Laurence Olivier - Gregory Peck)



EGG ABOUT TO BE INJECTED WITH RED BLOOD CELL FROM ANOTHER SAME ANIMAL



1:28:42 / 2:04:58





The Boys From Brazil 1978 (Laurence Olivier - Gregory Peck)





EGGS ARE READY TO BE PLACED BACK INTO FEMALE FOR INCUBATION /



▶ ▶| 🔊 1:29:00 / 2:04:58





▶ ▶| 🔊 1:29:08 / 2:04:58

CC ⚙️ HD 📺 🗨

INJECTED INTO WOMB AND GROWN INTO EMBRYOS

SUBSCRIBE



SCNT

Somatic Cell Nuclear Transfer

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▶ ⏮ 🔊 1:00 / 2:52



First Cloned Human Embryos Yield Stem Cells



STRANGE THINGS





How The Philadelphia Experiment B

All That's Interesting

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USS ELDREDGE August 12, 1943 / October 28, 1943 Philadelphia Navy Yard. magnetic
invisibility, radar invisibility,
optical invisibility

Dan Mirahorian
Copyright © 2004
All Rights Reserved



The Philadelphia Experiment-Exploring The Reality Of Project Rainbow
The Philadelphia Experiment and Resonant Field Transfer Principles
Teleportation , Emission and Reception of Matter & Energy

the unified charge geometrics mechanics of mass-ENERGY-Matter in Nature

linear forces

NORMAL GAUSSIAN BELL CURVE PROBABILITY DISTRIBUTIONS

p

TRANSVERSE
BOSONS

ODD NUMBERS

SCALAR EM
ENERGIES

SQUARE NUMBERS

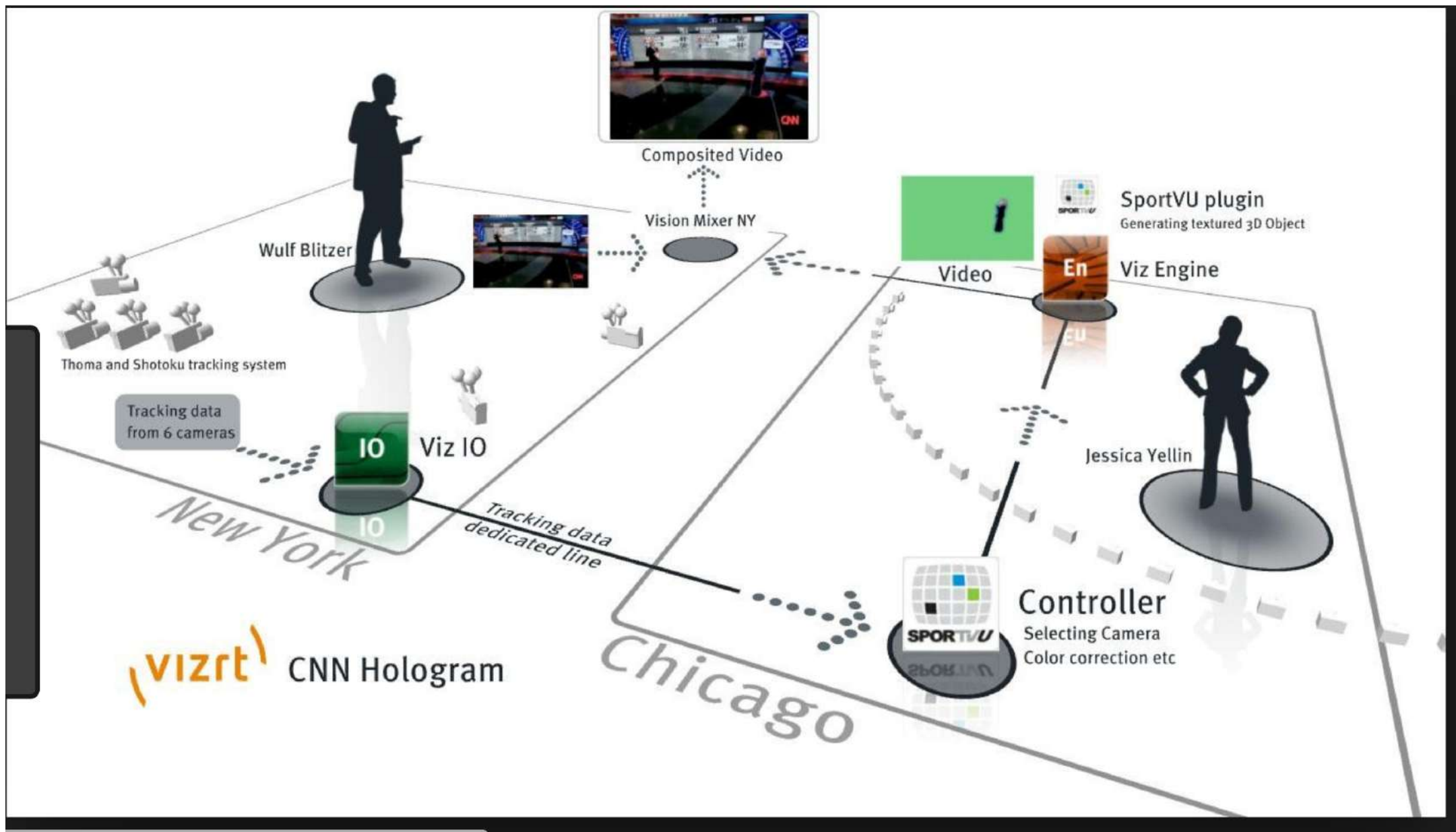
m

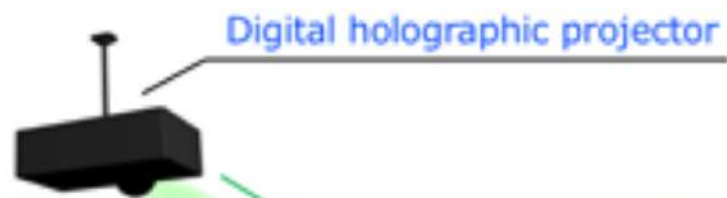
v^2

TRIANGULAR NUMBERS

QUANTUM LEVEL TRANSITIONS

TETRYONIC THEORY





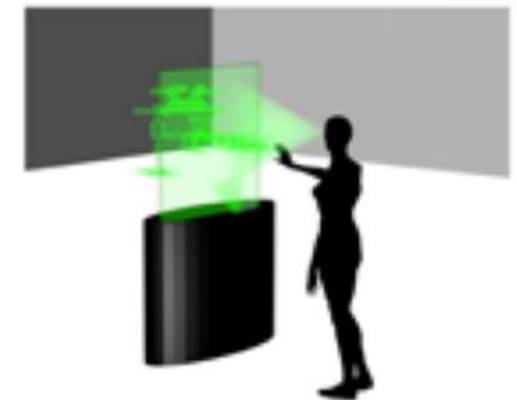
Digital holographic projector

DDHOE screen fabricated by hologram printer

The light of enlarged holographic 3D image is concentrated to the target observation point via see-through DDHOE screen

Both the display size and the visual angle can be increased independent of resolution of SLM

target observation point



Digital 3D signage



In-car head up display





**Ancient Egypt: Land
of portals and stargate technology.**



The one and only true timetraveler Andrew D. Basiago tells the Truth:

THE EIGHT MODALITIES OF TIME TRAVEL by Andrew D. Basiago

1. Remote viewing was developed by the US military in the 1960's years before it was supposedly developed at Stanford Research Institute [SRI] in 1972. It uses the human mind to travel to locations distant in space in real time or distant in time-space.

2. Spinning to induce out-of-body experiences so as to travel on the astral plane is an ancient occult practice. It uses dissociation of the mind to access while awake the astral realm that we access while we are lucid dreaming.

3. The Montauk chair was reverse-engineered from the pilot's seat aboard a crashed ET craft, by which the ET pilot piloted the craft psychically to avoid collisions in space in light of the speed of the craft and the vast interstellar distances traversed. It uses magnetic transduction to boost human consciousness forward in time so that the individual in the chair pre-experiences a moment in his subjective future.

4. The teleporter, which opens up a vortal tunnel in the fabric of time-space through which the teleportee passes from Point A to Point B in several seconds, was invented by Nikola Tesla. It uses a field of radiant energy to open up the vortal tunnel in time-space. When the tunnel in time-space closes, the teleportee finds footfall in the location where the tunnel closes, either in real time or in the past or future.

5. The chronovisor was accidentally discovered by Vatican musicologists Father Pellegrino Ernetti and Father Augustino Gemelli when they were studying the harmonic patterns in Gregorian chants at the Catholic University of Milan in the 1940's. Ernetti and Gemelli found that the microphone they were developing could pick up the sounds of past events. It uses holograms that are so dense that they have the effect of lensing non-local events into the laboratory which the time traveler can visit and explore while standing in the hologram. The advanced chronovisor was developed from a TV-like screen into a standing cubical hologram of moving, multi-colored light by US defense contractors under DARPA after the Vatican gave the chronovisor technology to the US government for further development.

6. The stargate is a Tesla teleporter that so concentrates the radiant energy that it derives from the quantum hologram that it can send the teleportee vast distances in time-space. Once inside the vortal tunnel, the teleportee can see that the tunnel is identical to the tunnel walls of bluish-white holographic light produced by the Tesla teleporter, but since greater distances in time-space can be reached by the stargate, the teleportee spends more time in the tunnel and so has a greater risk of asphyxiation. It was via stargate that Project Pegasus was accessing 2045 in 1972.

7. The plasma confinement chamber was invented by Dr. Stirling Colgate, president of the New Mexico Institute of Science and Technology [NMIST] and a physicist at the Los Alamos National Laboratories [LANL]. It uses radioactive plasma to propagate a wormhole which the time traveler travels in order to be embedded temporarily in a past event. When this local quantum field effect created around the chrononaut wears off, he experiences transitioning spontaneously back to his point of embarkation in the chamber without traveling via wormhole. It was via this device that Andrew D. Basiago was sent to Gettysburg, PA in 1863 in Spring 1972 as seen in the Josephine Cobb image of Lincoln at Gettysburg.

8. The jump room or "aeronautical repositioning chamber" [ARC] was developed in a joint venture between Parsons and Lockheed, possibly after being reverse-engineered from an extraterrestrial device or as a result of ET-human liaison in which the device was given to the US government by one of the Grey ET species. It uses an unknown process to relocate the teleportee on an interplanetary basis. In the CIA's Mars jump room program, jumps between Earth and Mars tended to take about 20 minutes and involved the jump room "morphing" from a box to a cylinder and back again during the jump.



Credit : Canadian Museum of Nature, Ottawa, Canada



Vampire Bat in

YouTube

Vampire Bat in Hand Li

 Visit

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Truthful representation of mankind on the planet Earth heading at their free will toward a trap of the negative state - the dark worlds, and even celebrating, besotted by control programs and pseudo-successes, **not being aware** of their negative acts and resulting consequences (e.g. building of chip totality today). The snake represents the Dark forces - negative entities both on Earth and in the space, who try to captivate the mankind. **Size** of snake's head matches the scale of control programs and **negative energies** massively accepted by people in such a degree and quantity, that people don't even realize it and **DON'T SEE** this negative state's TRAP laid for them. Krishna, a blue boy, the being of Light, won't let himself get seduced by the Dark forces nor negative people, thus showing through his positive acts and thinking **THE RIGHT WAY** back to Primary Creator of everything and everybody.

Pic. 1868 www.angels-light.org www.universe-people.com

Leaflet 323 Pic. 2624

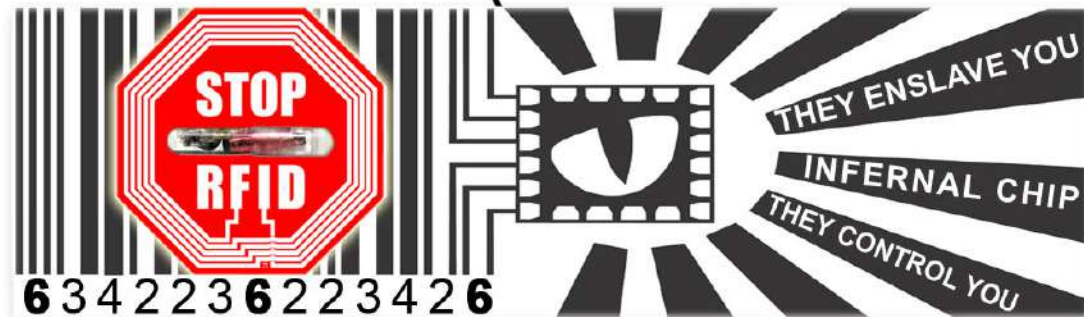
ASHTAR SHERAN LORD JESUS CHRIST PTAH

CAUTION ! Saurians from hells want to chip you and objects

angels-light.org

noverichipinside.com ♥ foebud.org Pic. 2620 Report 3033

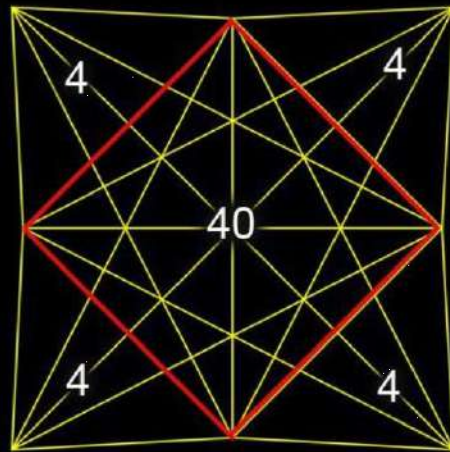
Saurians want to put CHIPS into bodies to enslave you !



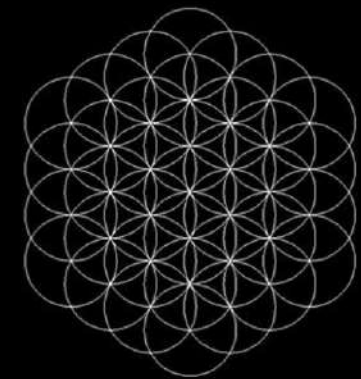
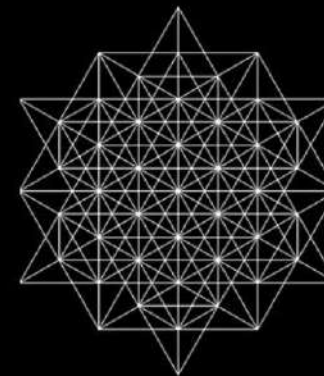
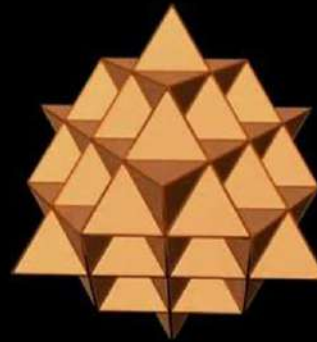
angels-light.org

Pic. 2628 noverichipinside.com ♥ foebud.org Message 3014

Each side of the Great Pyramid is concave
which gives us a total of 8 faces



Connecting the 8 nodes of the base
produces 56 separate polygons
Plus the Great Pyramid's 8 sides
gives us a total of 64 polygons



The 64 Tetrahedron grid is the fundamental geometry of the Universe
A sphere around each tetrahedron projects a Flower of Life in 2D
At its center exists the cuboctahedron / vector equilibrium
And the spaces inside form octahedrons (2 pyramids base to base)

Forbidden City, China Foo Dogs Guarding Knowledge



Solution to packing spherical
planck-scale vacuum fluctuations
proving proton is holographic - quantum gravity

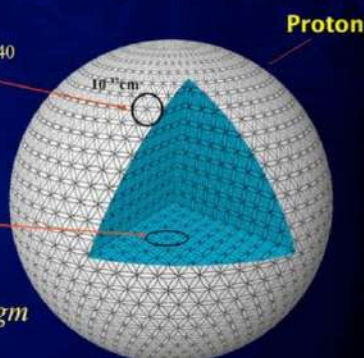
QUANTUM GRAVITY AND THE HOLOGRAPHIC MASS



$$\eta = \frac{A_p}{A_{tc}} = 10^{40}$$

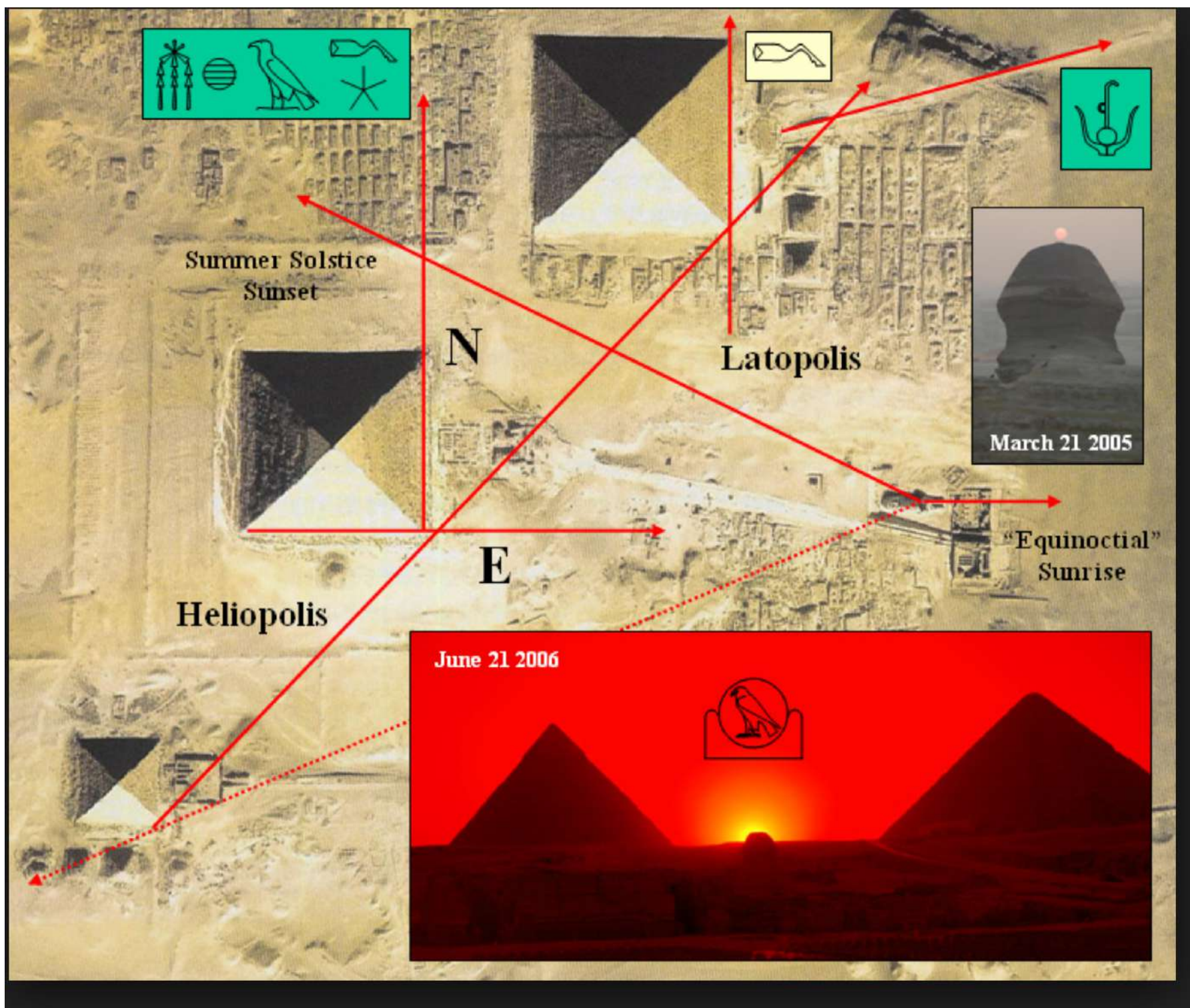
$$R = \frac{V_p}{V_{ts}} = 10^{60}$$

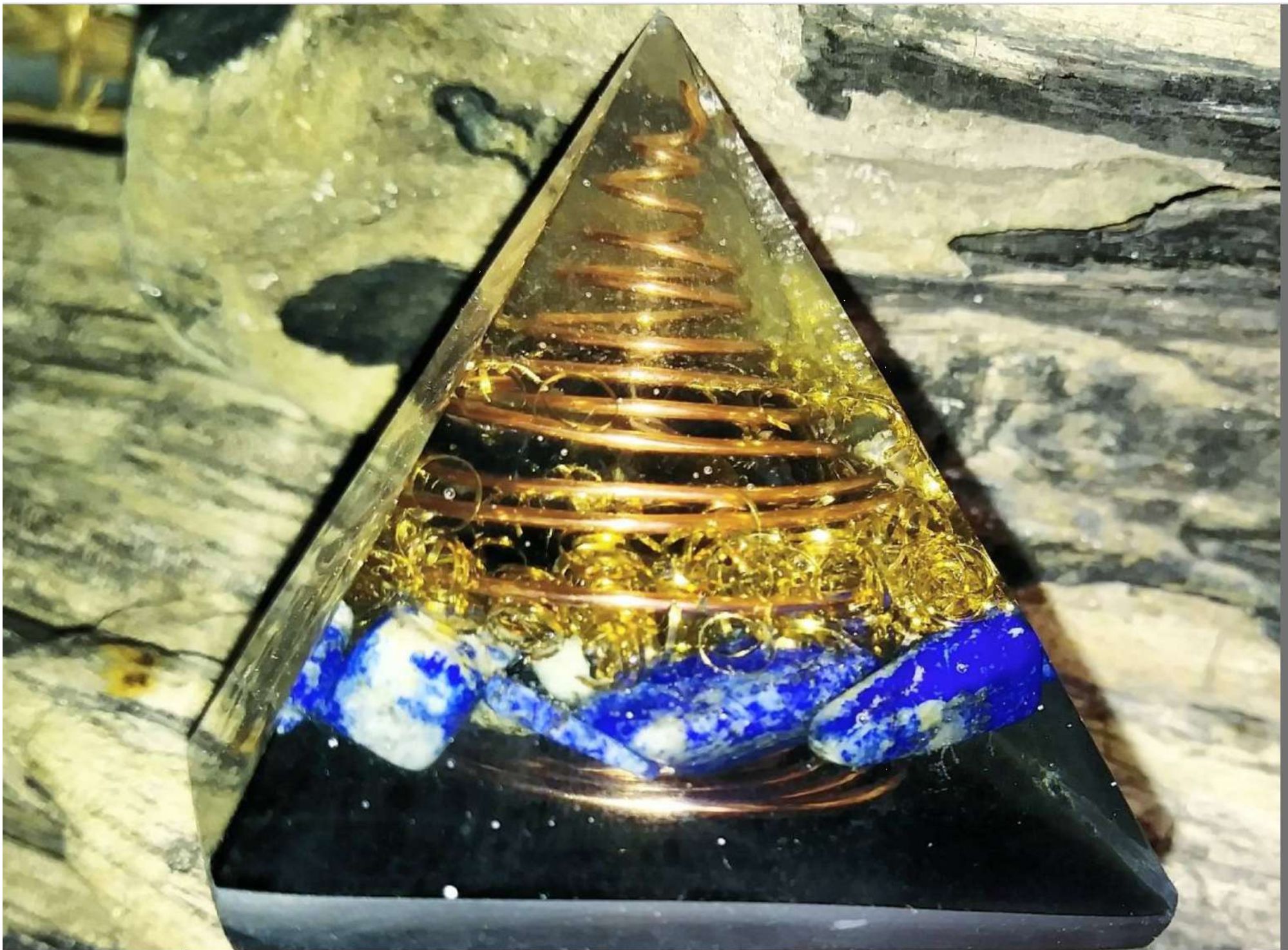
$$2 \frac{\eta}{R} m_e = 1.6714213 \times 10^{-24} \text{ gm}$$



Within $0.0012 \times 10^{-24} \text{ gm}$ of CODATA

/r/holofractal





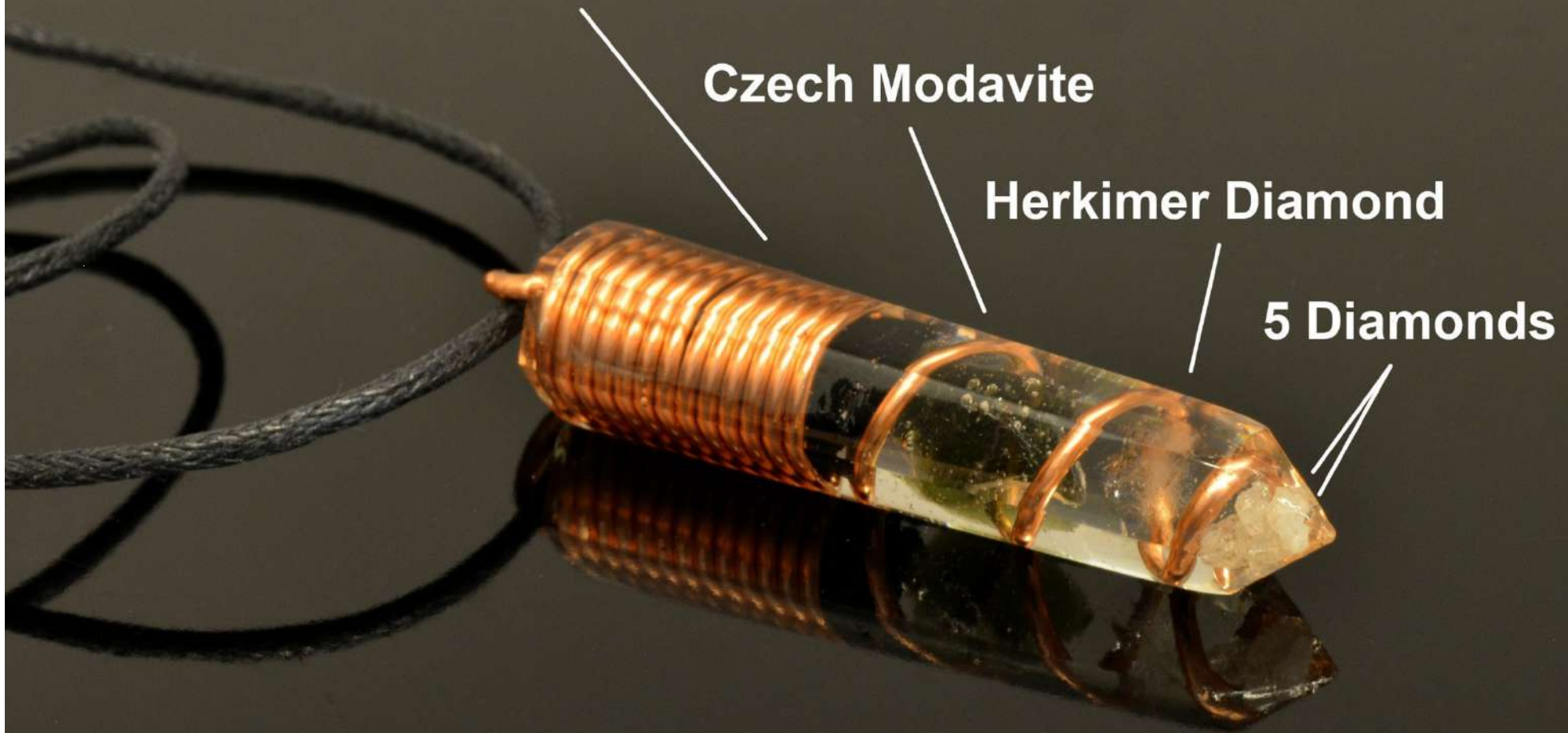


Black Tourmaline

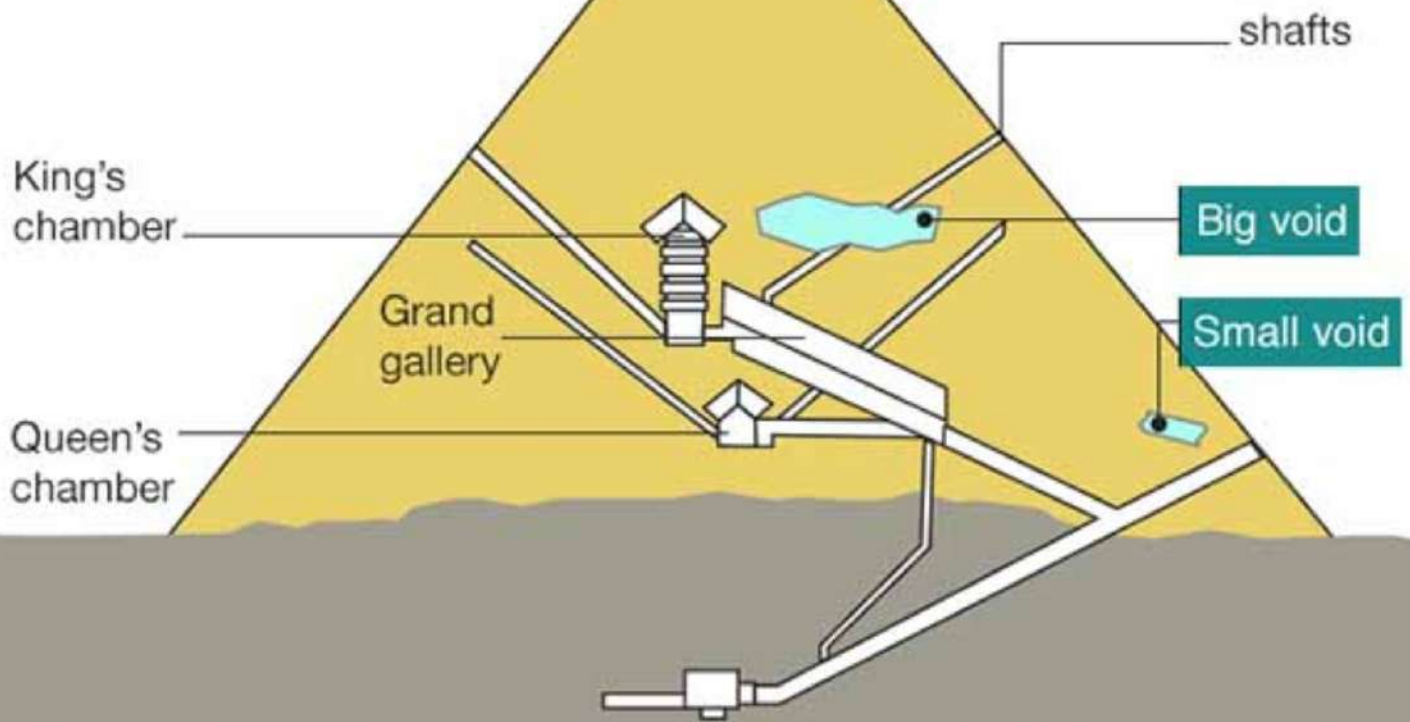
Czech Modavite

Herkimer Diamond

5 Diamonds

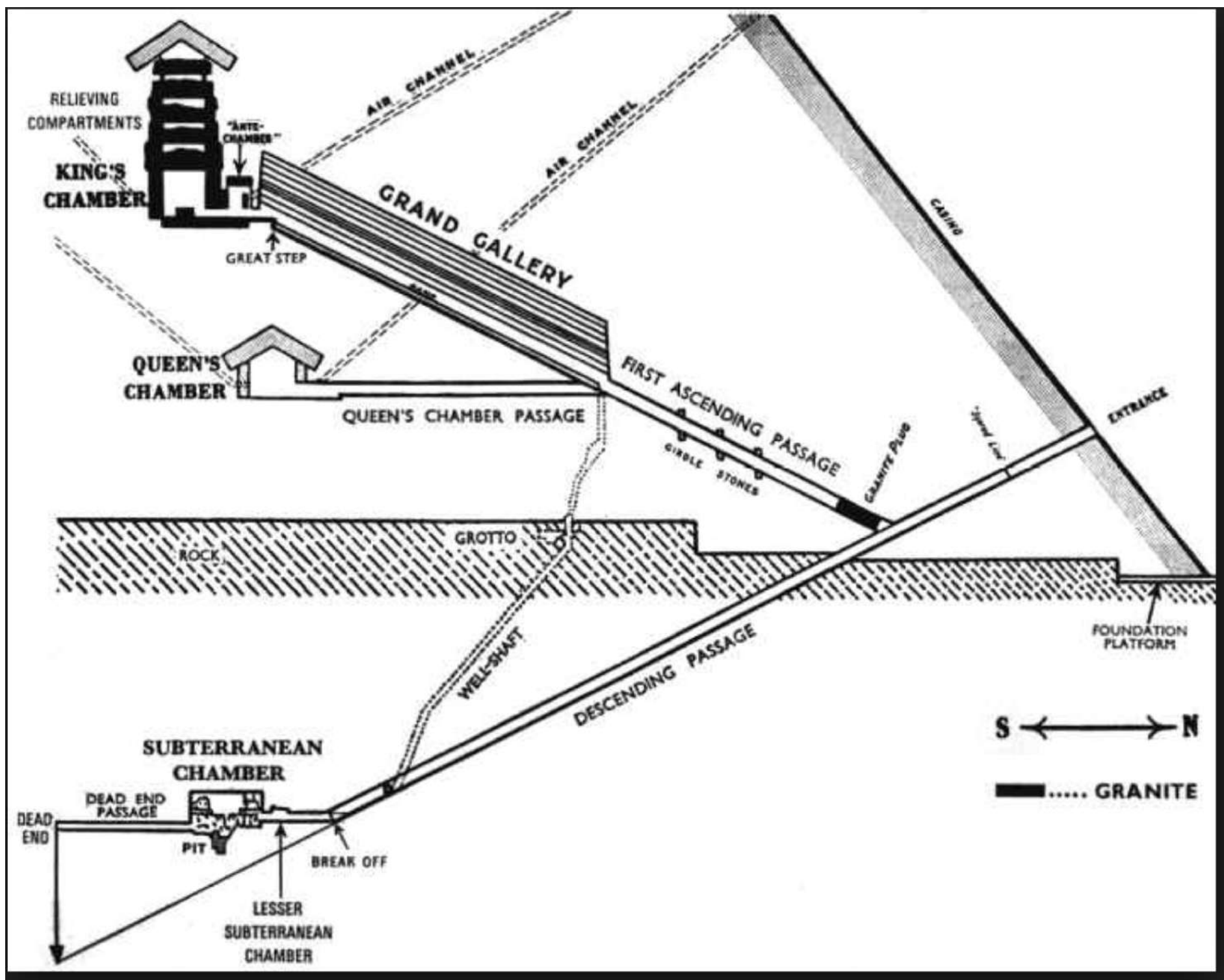


Great Pyramid (Khufu's Pyramid)



Source: ScanPyramids

BBC





Egyptologists have oft speculated what these were used for;
 in this DTM, I ask Rev. Douglas about the purpose
 of the Queen's chamber shafts

YouTube

Douglas James Cottrell PhD: The Great Pyramid Queen's chamber mystery shaft

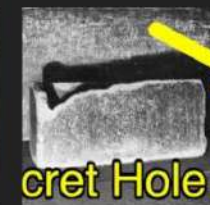
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Energy state change

2:1

9

1:4

7

1:3

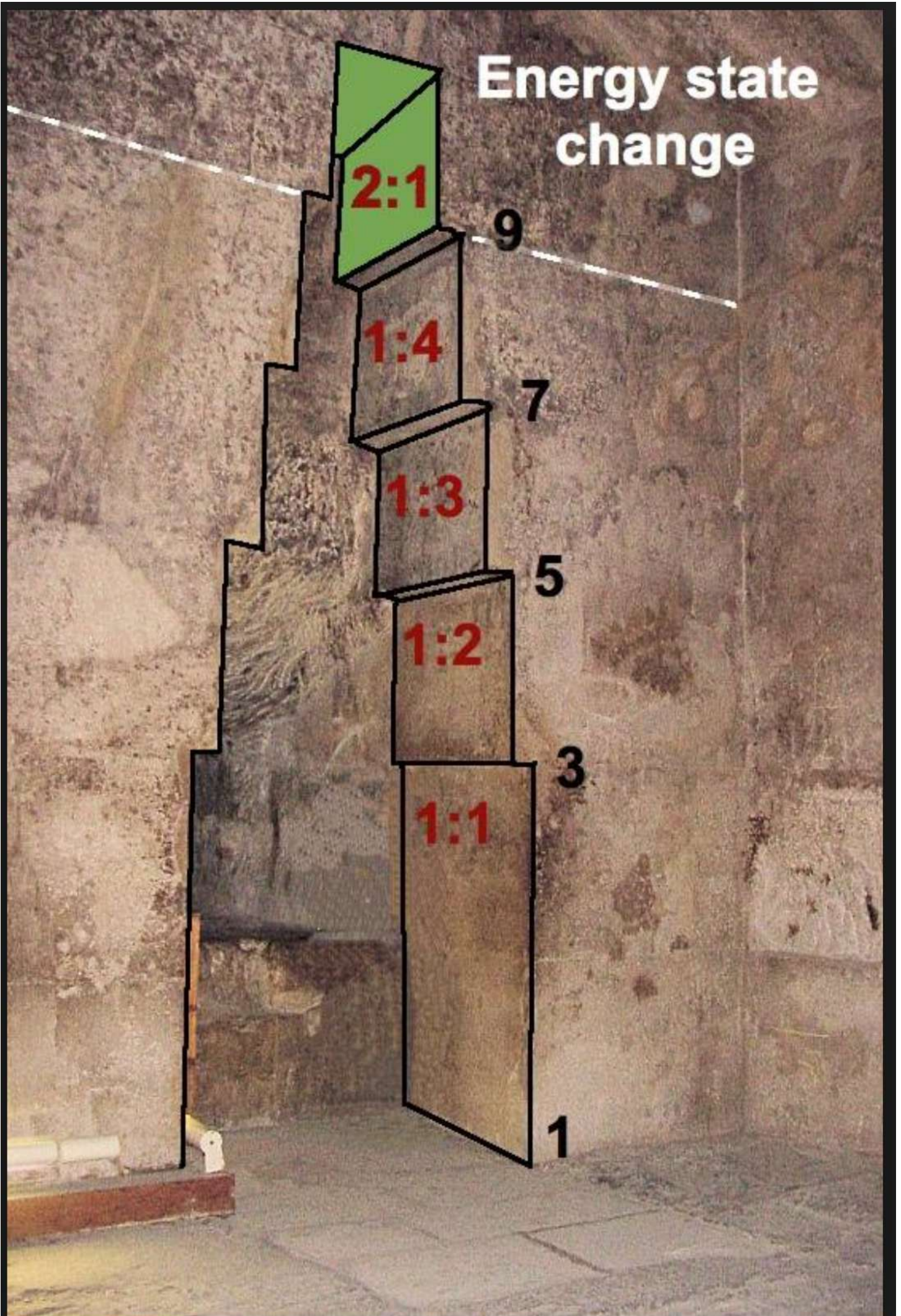
5

1:2

3

1:1

1







The queen's chamber

TripAdvisor

The Palace of Knossos: Th

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HONOLULU—In an announcement with grave implications for the primacy of the species of man, marine biologists at the Hawaii Oceanographic Institute reported Monday that dolphins, or family Delphinidae, have evolved opposable thumbs on their pectoral fins.



One of the evolved dolphins, whose opposable thumbs have struck fear in the hearts of humankind.

"I believe I speak for the entire human race when I say, 'Holy fuck,'" said Oceanographic Institute director Dr. James Aoki, noting that the dolphin has a cranial capacity 40 percent greater than that of humans. "That's it for us monkeys."

Aoki strongly urged humans, especially those living near the sea, to learn to communicate using a system of clicks



Dolphin Asks For Help From Diver to Remov...

wideopenspaces.com

A dolphin seeks help from a diver

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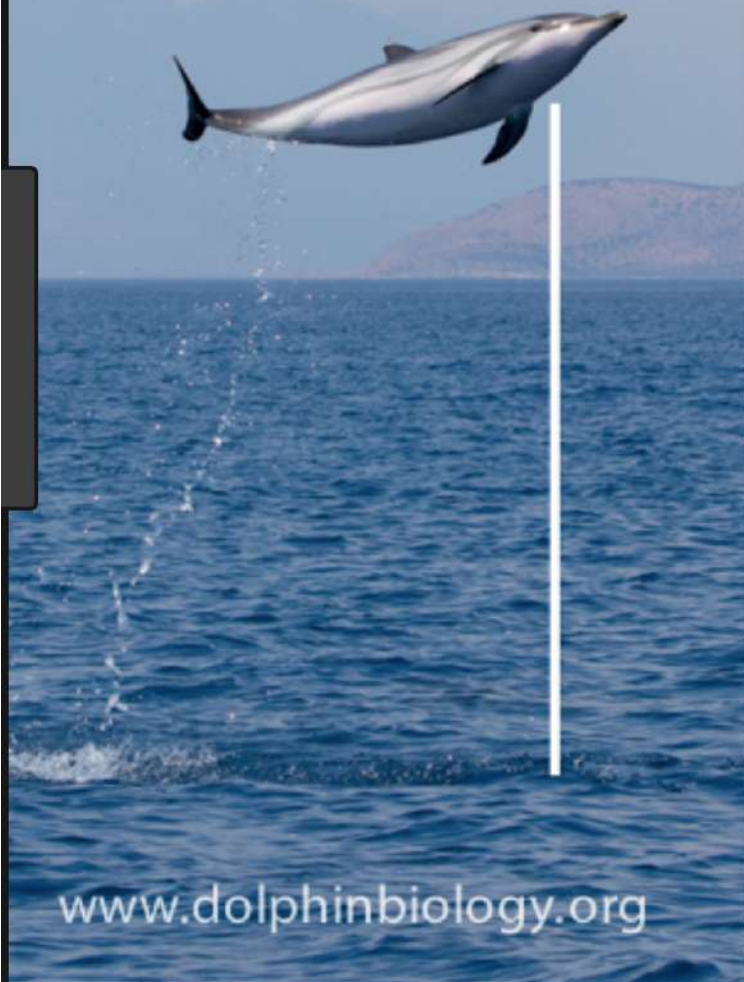
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Related images:





Striped dolphin
Stenella coeruleoalba



Common bottlenose dolphin
Tursiops truncatus



www.dolphinbiology.org

FLYING SHARKS

THE HIGHEST LEAPING SHARKS

Most sharks cannot accelerate quickly because of the shape of their tails, which are meant to push them toward the ocean floor as they scavenge, but a few sharks have enough power and speed to launch themselves out of the water. Check out these high jumpers:

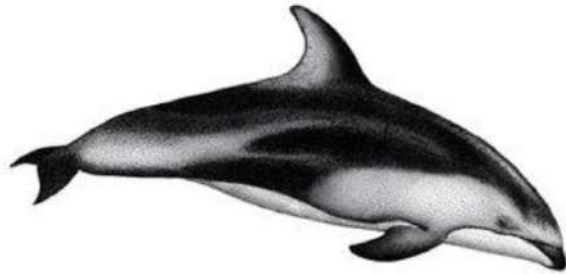




WHALES



DOLPHINS OF THE WORLD

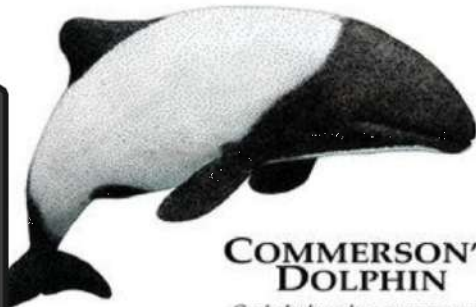
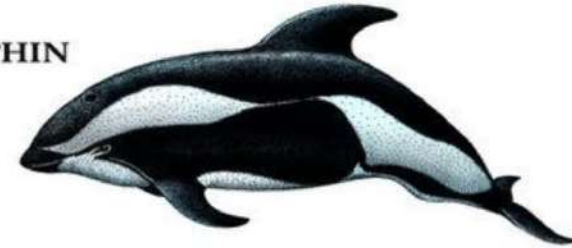


**PACIFIC WHITE-SIDED
DOLPHIN**

Lagenorhynchus obliquidens

HOURLASS DOLPHIN

Lagenorhynchus cruciger



**COMMERSON'S
DOLPHIN**

Cephalorhynchus commersonii



**SHORT-BEAKED
COMMON DOLPHIN**

Delphinus delphis



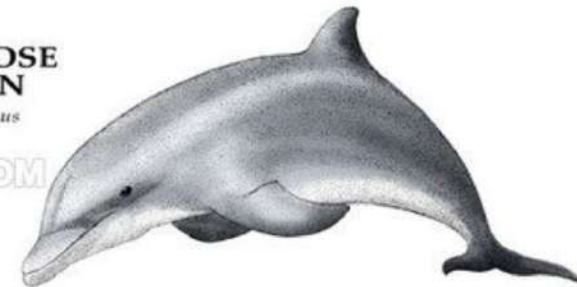
SPINNER DOLPHIN

Stenella longirostris



**BOTTLENOSE
DOLPHIN**

Tursiops truncatus



**AMAZON RIVER
DOLPHIN**

Inia geoffrensis

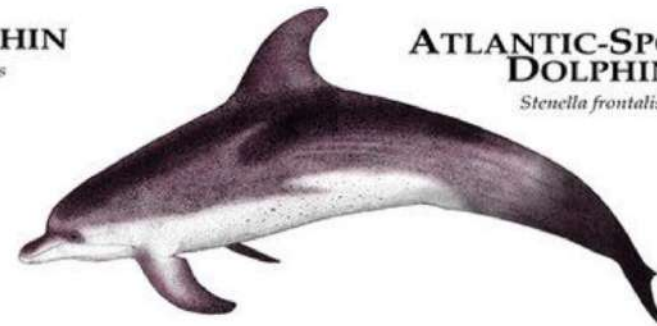
DUSKY DOLPHIN

Micrurus lemmiscatus



**ATLANTIC-SPOTTED
DOLPHIN**

Stenella frontalis



Type A



Type B



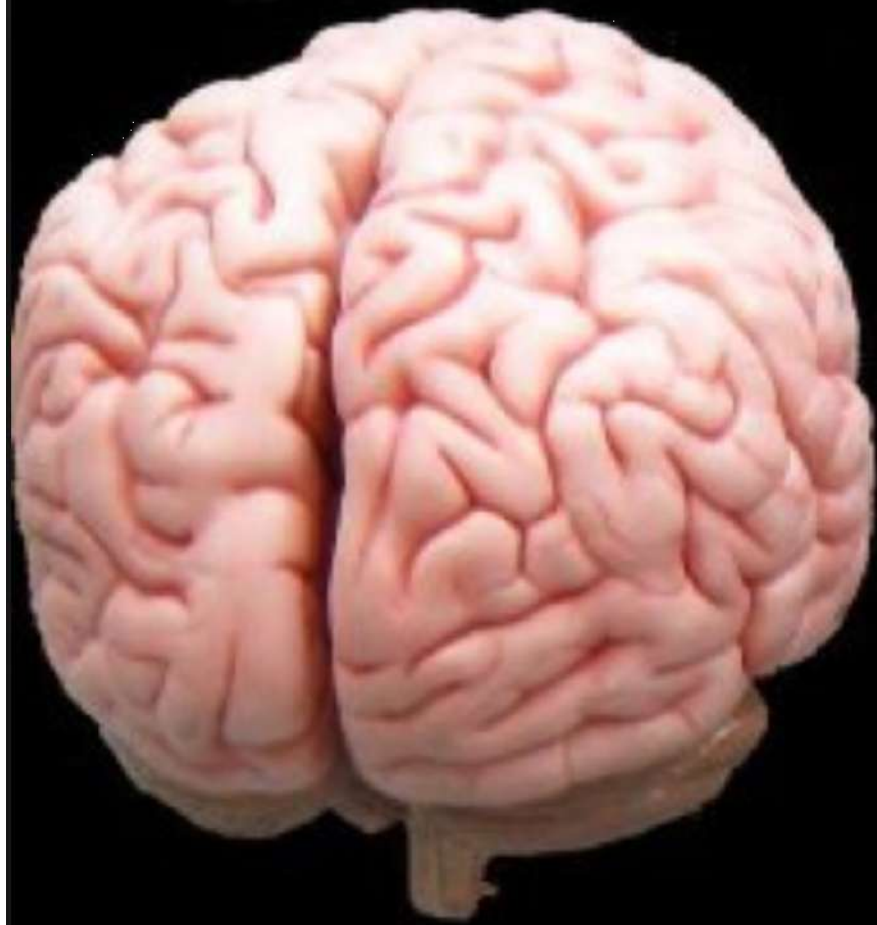
Type C



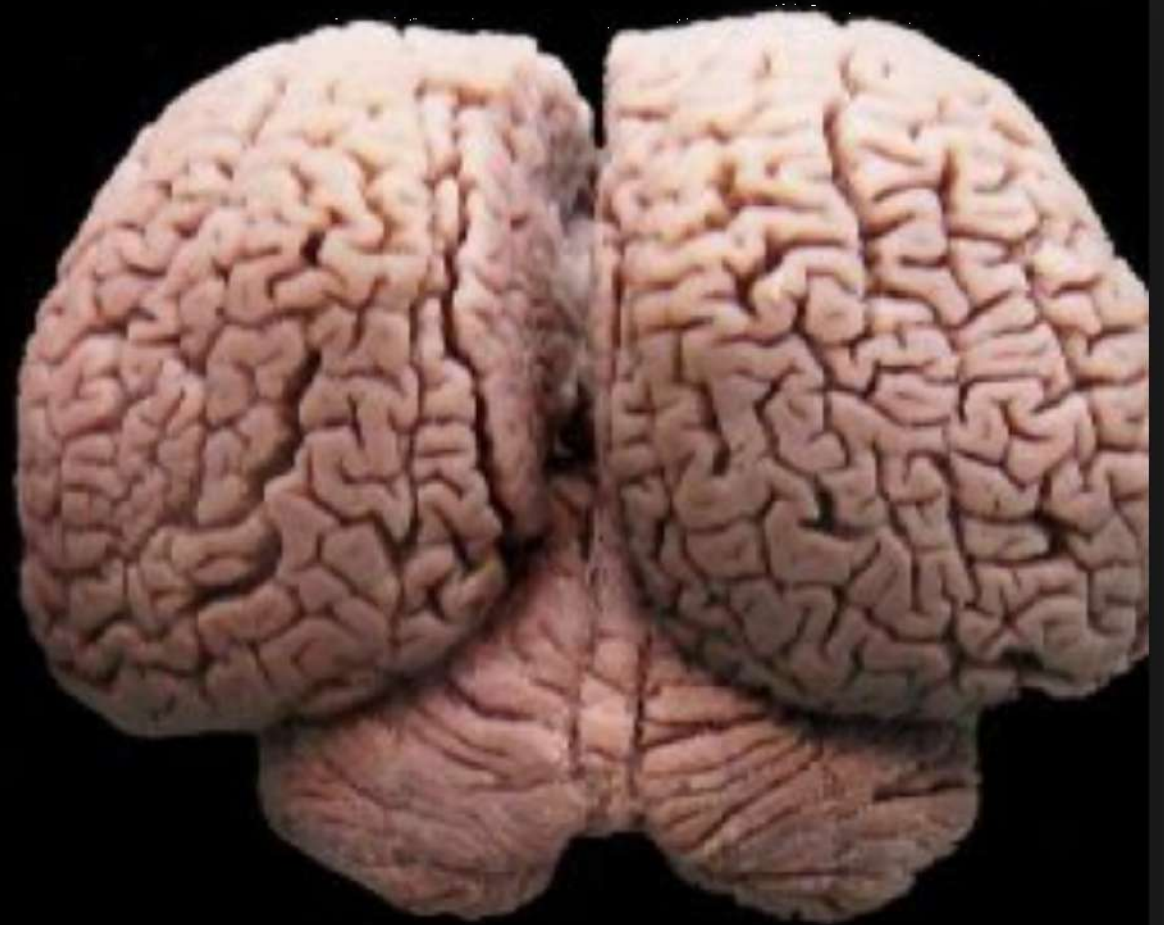
Type D



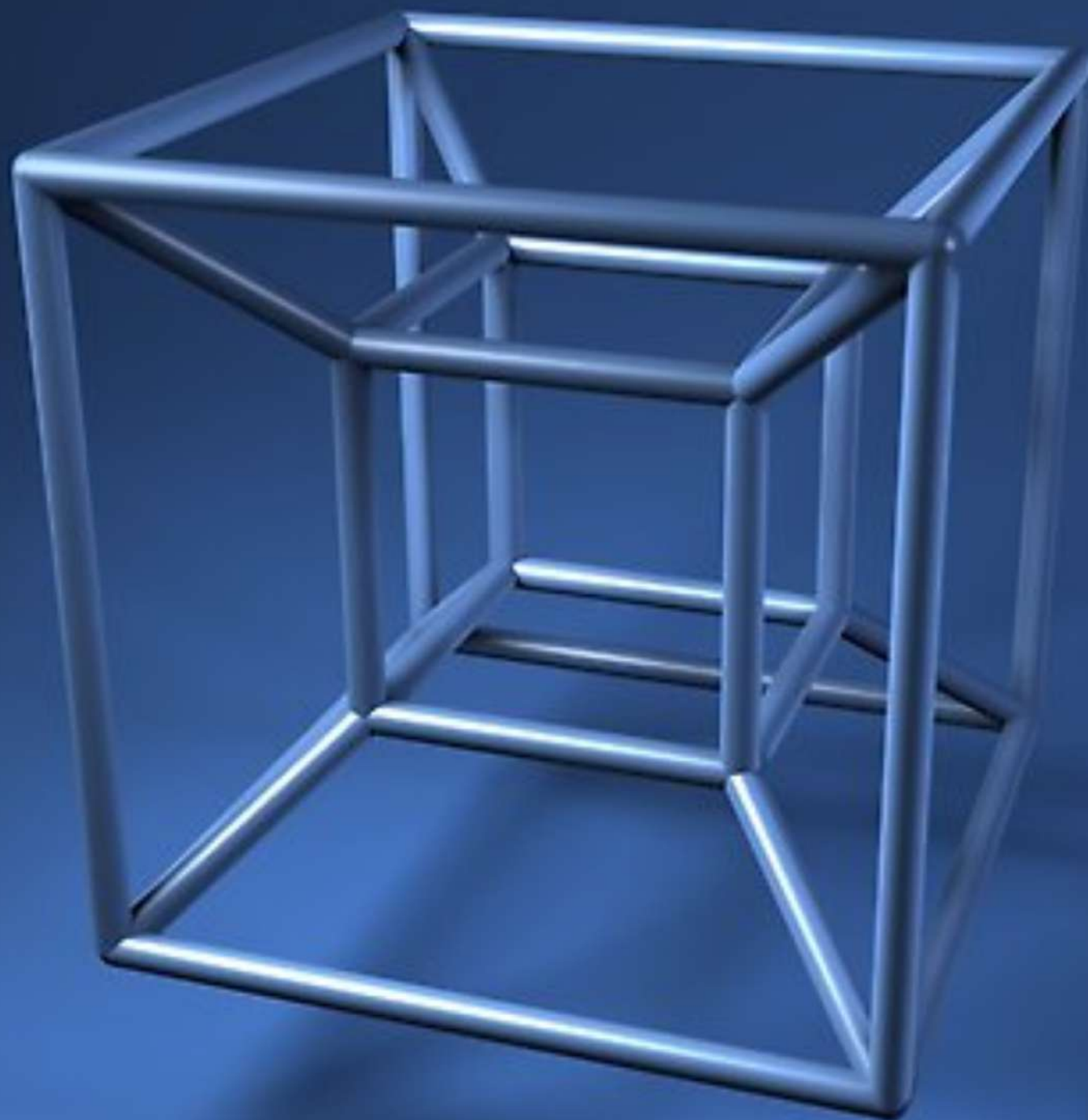
J.-P. Sylvestre/ORCA



Human Brain



Dolphin Brain





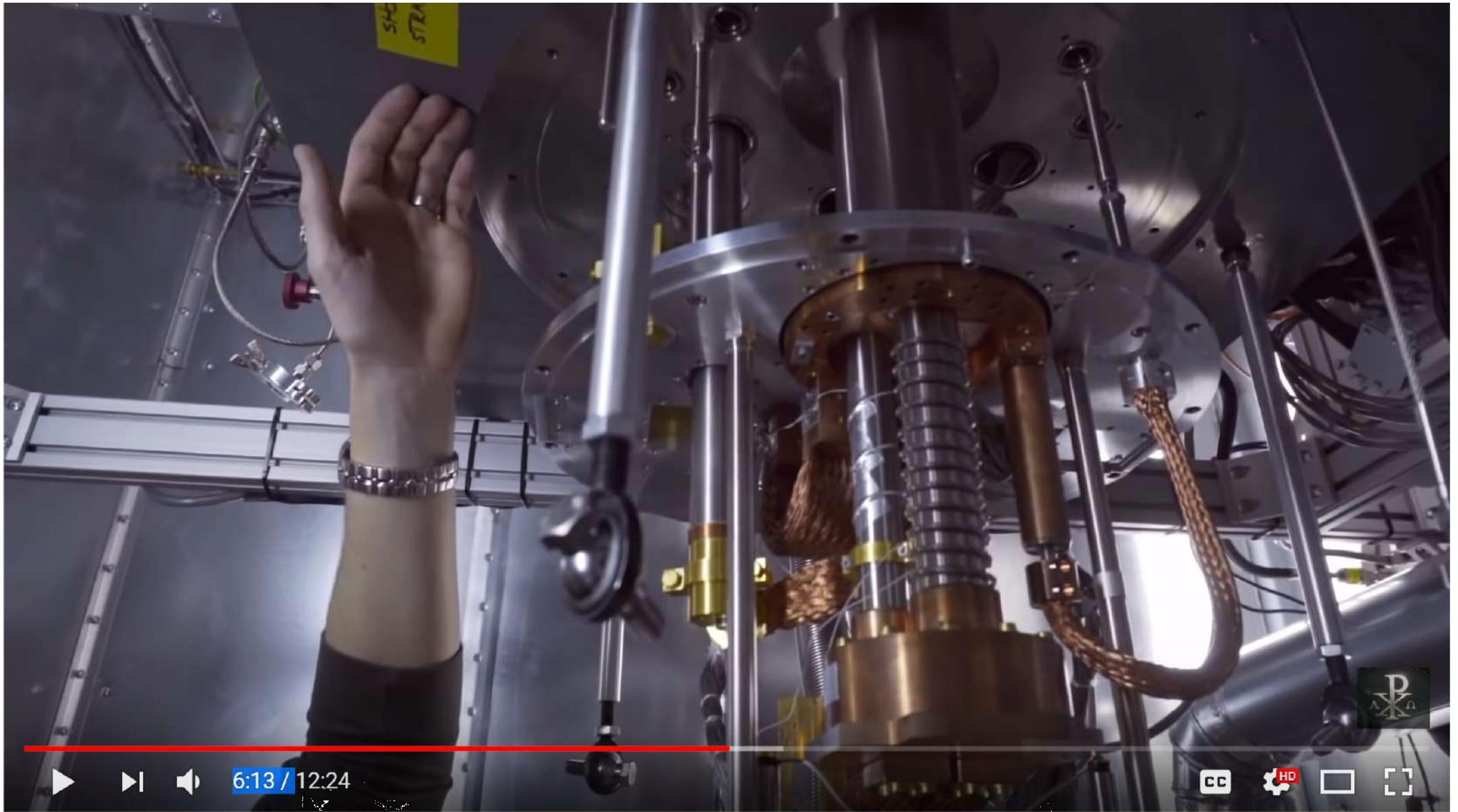
To break the

SOUND BARRIER

an object must travel faster than the speed of sound, which is approximately

340m/s or 760mph.





Inside a D-Wave Quantum Computer (Full tour)

Room temperature

300 kelvin

50 kelvin

3 kelvin

Interstellar space

0.7 kelvin

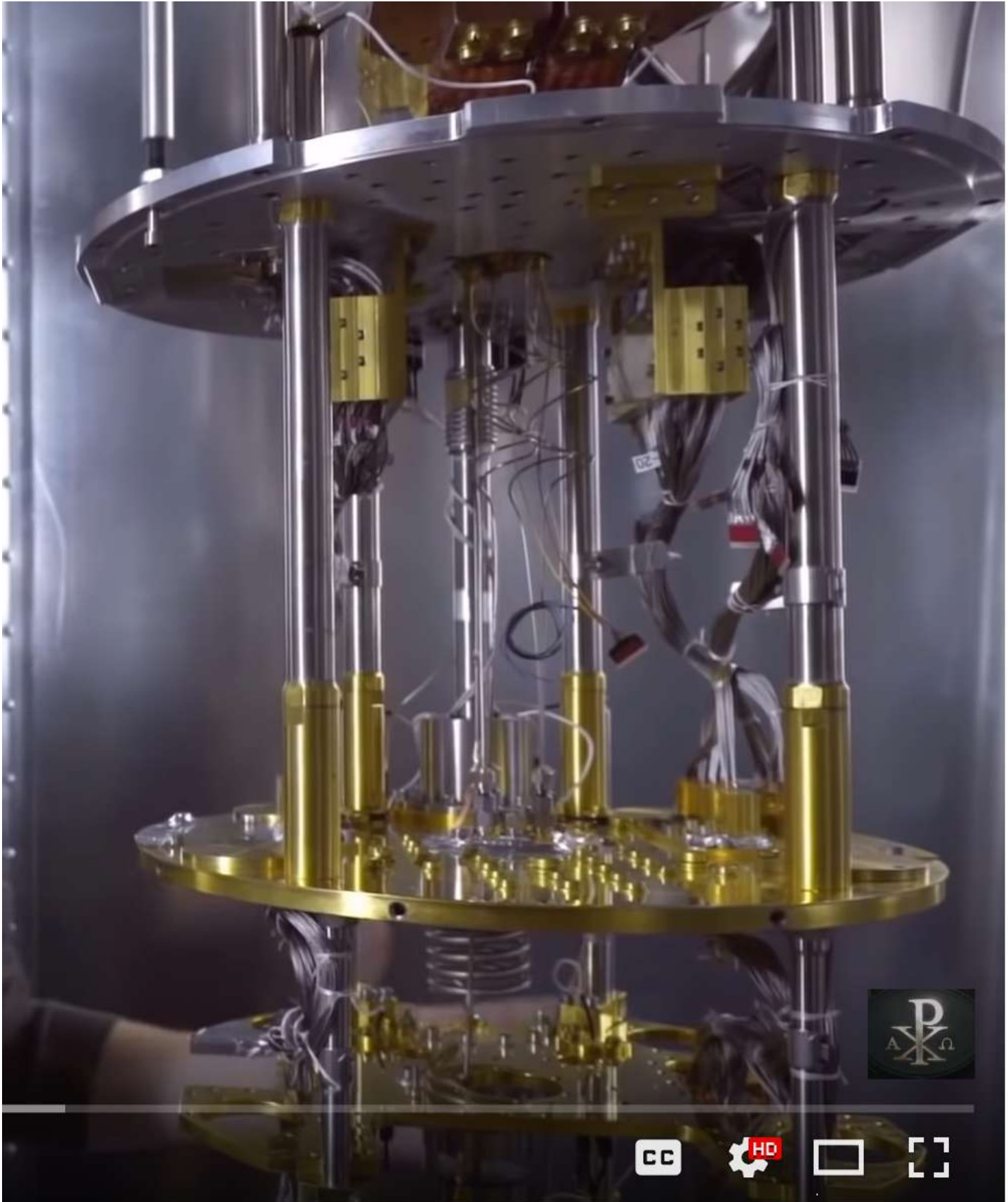
0.1 kelvin

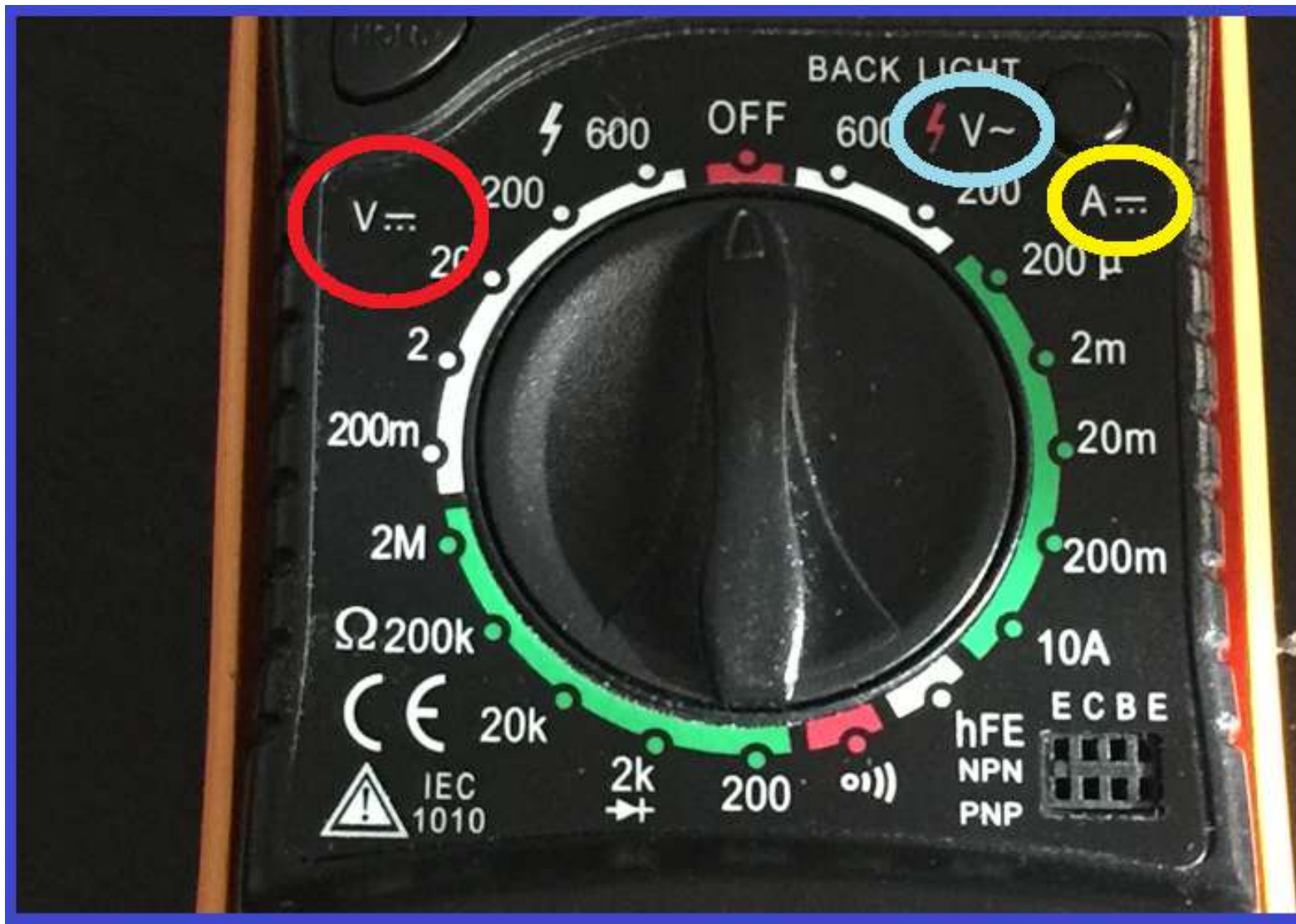
0.01 kelvin



6:34 / 12:24





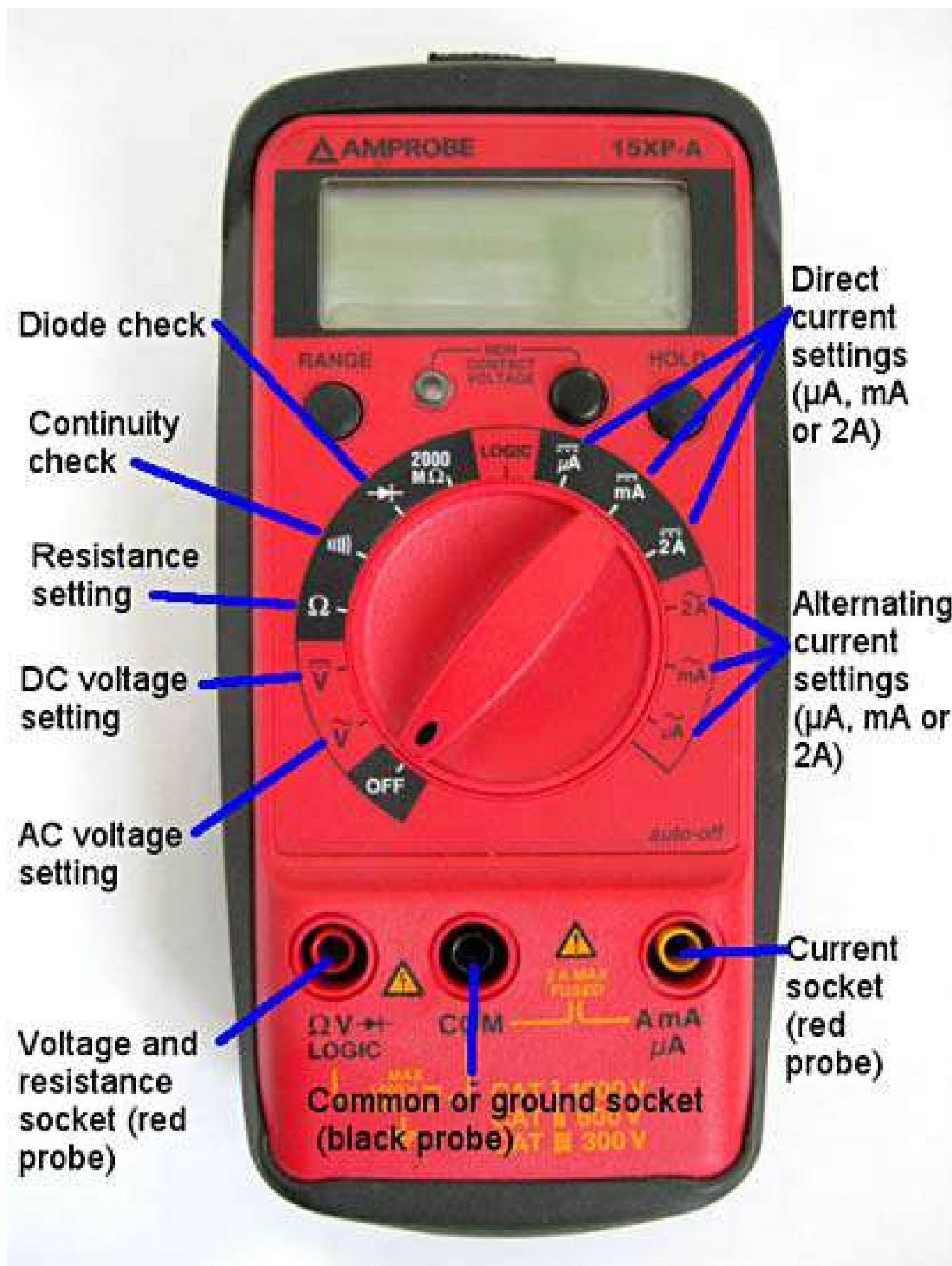


V... DC

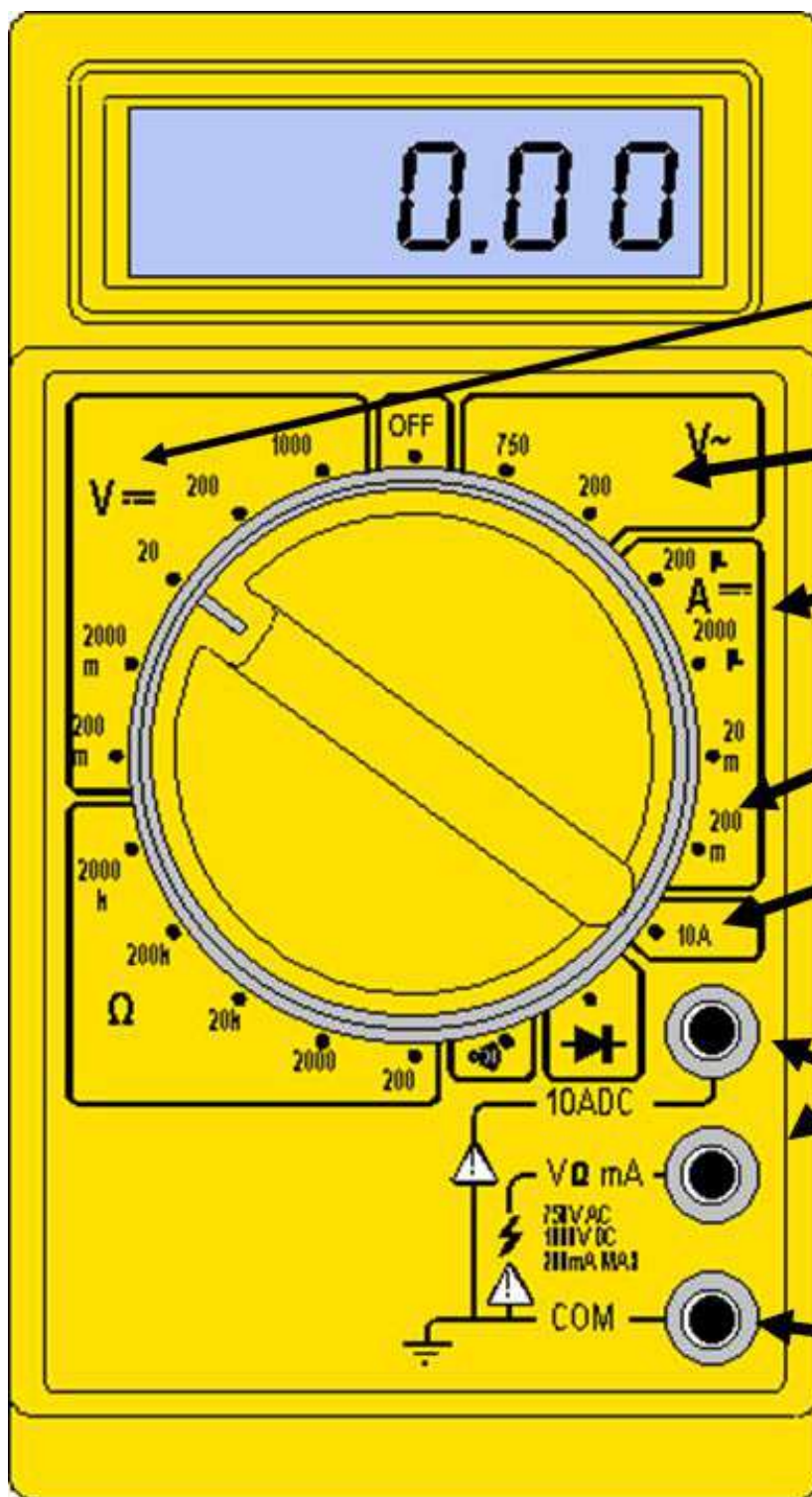
V~ AC

A... Amps





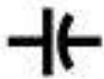






MULTIMETER



- **DC VOLTS** - up to 1000 volts may be measured
- **AC VOLTS** – up to 750 volts can be measured.
- **DC 200 and 2000 μ** is a very small value for amps.
- **DC 20 and 200 mA** (miliamps) is a small value for amperes.
- **DC 10A** (amperes) is the largest value for amps this meter can read.
- The **red** test lead plugs into the **V/mA** jack for testing voltage and for small (milli-amp) currents
- The **red** test lead also is moved to the **10A** for larger (10 ampere) currents.
- The **black** test lead always plugs into the **black COM** (common) jack.

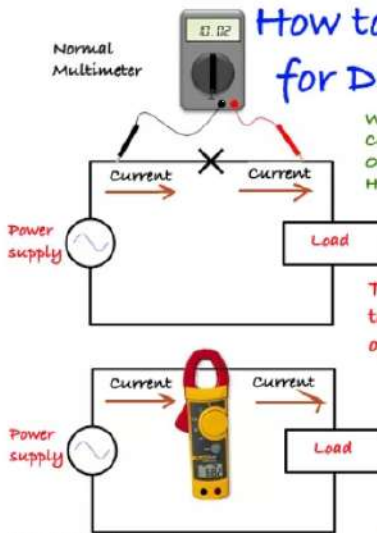
DIGITAL MULTIMETER FRONT PANEL SYMBOLS

Symbol	Meaning
V 	V DC
V 	V AC
mV	millivolts (.001V or 1/1,000V)
A	Amps
mA	milliamps (.001A or 1/1000A)
μ A	microA (.000001A or 1/1,000,000A)
Ω	Resistance (Ohms)
k Ω , M Ω	kilo-Ohms, Megohms
)))	Continuity beeper
	Capacitance (uF: Microfarads) (nF: Nanofarads)
	Diode test
Hz	Hertz (cycles/sec)
REL Δ	Relative or offset reading
Range	Manual override of autorange
Hold 	Touch Hold-last stable reading
MIN MAX	Highest, lowest recorded readings
	Dangerous voltage levels
	Caution: see manual

How to Use Clamp Multimeter for Dummies

by TheCustomizenWindows.com

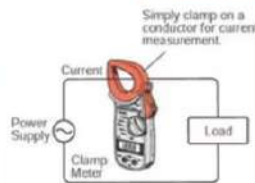
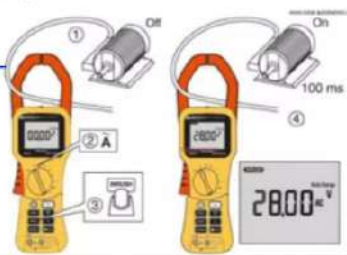
Normal Multimeter

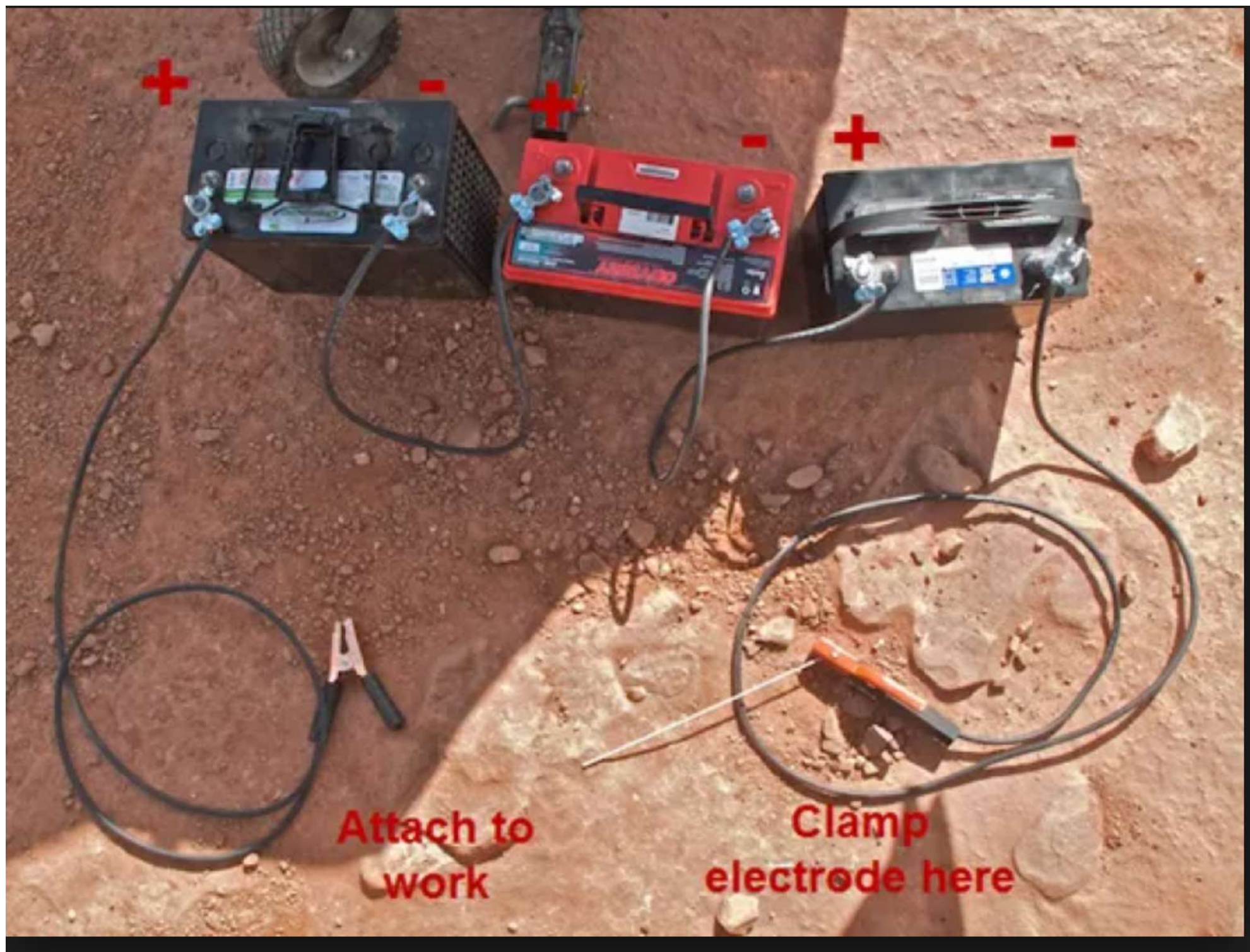


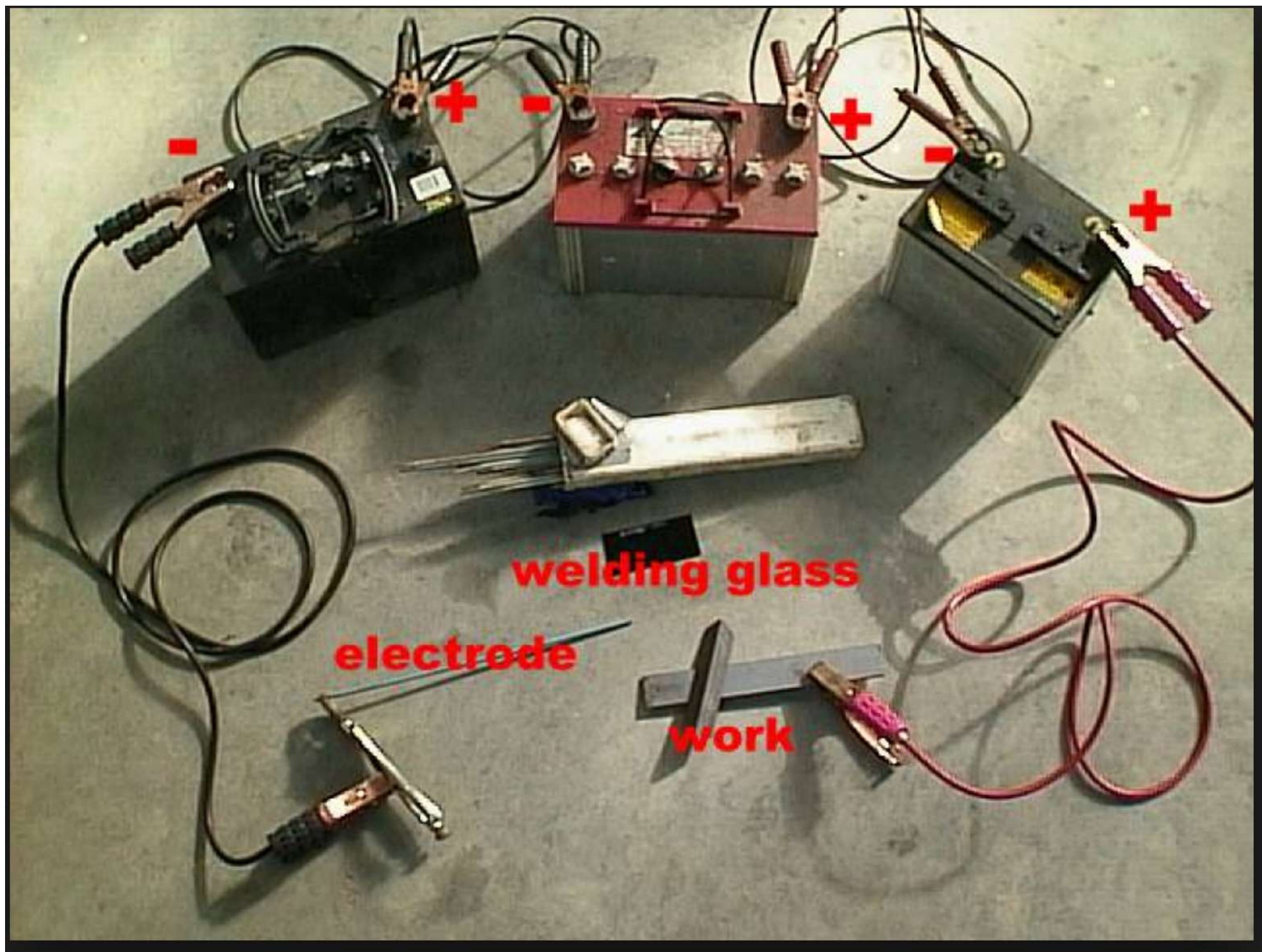
The Hall element sensor used responds to the magnetic flux due to direct current in the conductor which produces voltage across the element. The developed voltage is proportional to the current in the conductor. So by measuring voltage, current can be determined.

Hall effect and vane type clamps can also measure DC too.

SOME GADGETS SUCK HIGHER CURRENT AFTER USING FOR MANY YEARS.









BEST BUY

Inergy K2 Pre-Sale Gold Kodiak Solar Generator Kit with 5 Solar Storm100 Panels

\$2,114.99 USD ~~\$2,899.99 USD~~

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NOTE: All new Kodiak K2 products are on pre-sale pricing. Pricing goes up May 1st. Order yours today to hold yours for first shipment and pre-sale price. Pre-order shipping starts May 2019.

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Customer Reviews

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Liquid Fertilizer
Outlet



Full movie Check Specifications



HomeBiogas 2.0

~~\$720~~ **\$650**

The simple to install and use biogas system that saves money, improves health and provides energy & waste management infrastructure for the home. Transform your waste and transform your life today!

Order Now

- Buying HomeBiogas helps the planet.
- HomeBiogas takes pride in giving back.

Everything you need comes in the box

The do-it-yourself installation is simple when everything you need comes in the box. In fact, installation only takes 1 hour!



A biogas stovetop for great cooking experience. Quick connection and cook!

1300L/343 gal flexible digester tank

700L/185 gal gas tank with a mechanical pressure-release mechanism

7M/23ft. pipe from the system to the kitchen stove

A gas filter to remove odor

An inlet sink, complete with a plunger

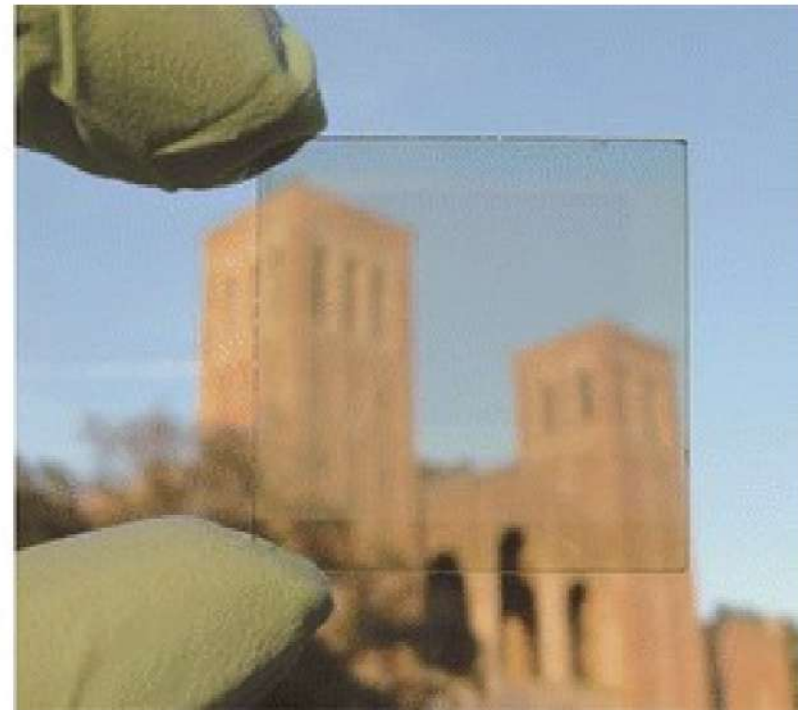
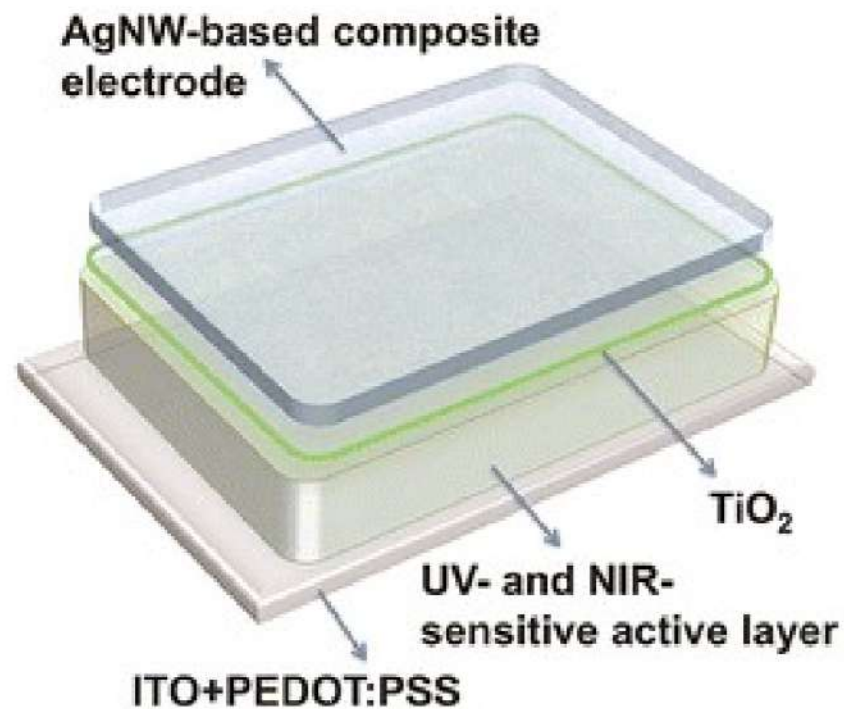
3M/10ft. indoor gas tube with connectors and gas valves

User friendly fertilizer outlet



Perfectly transparent solar concentrator turns every window into a solar panel

Visibly Transparent Organic Solar Cells - Broader Applications for Photovoltaics



Img: CC. Chen, Visibly Transparent Polymer Solar Cells Produced by Solution Processing, July 2012

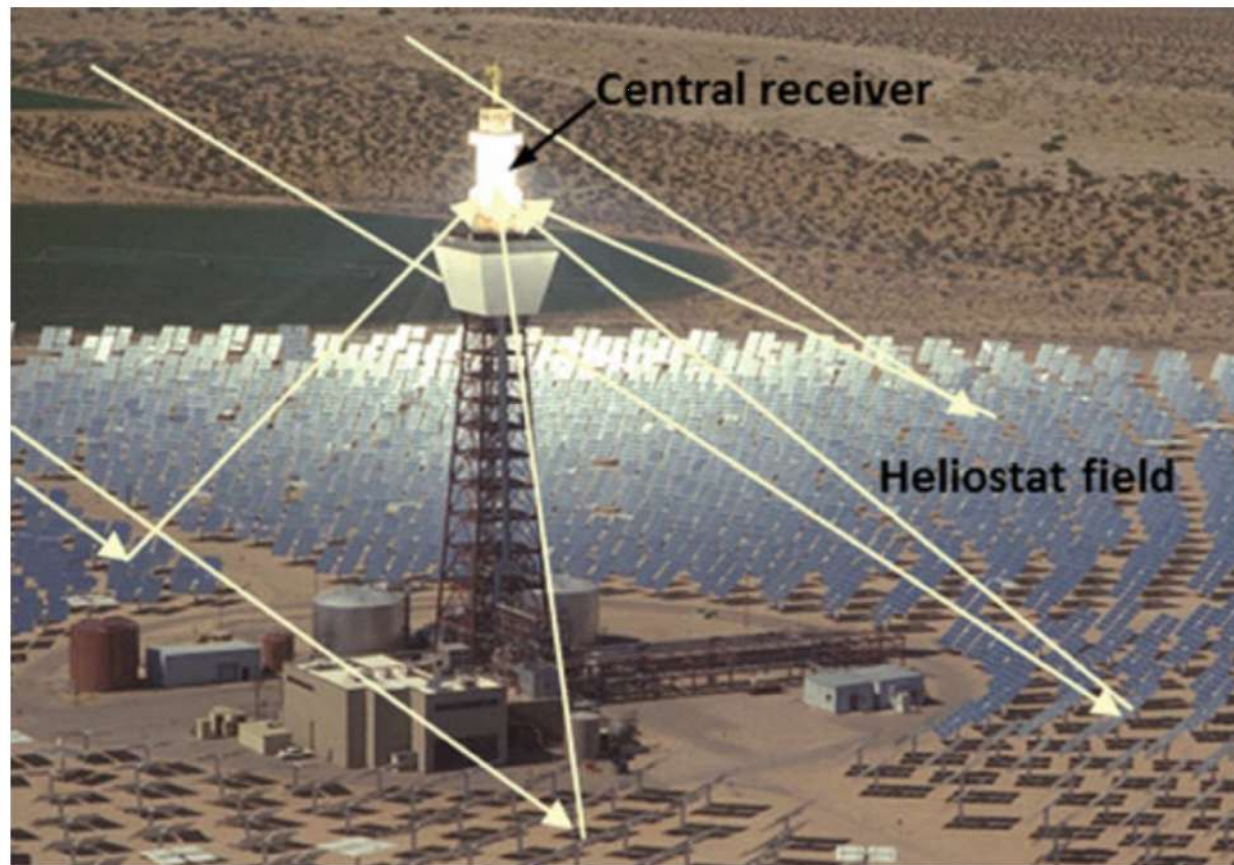


Fig. 2.6 Solar tower (Roldán et al. [2015](#))

The use of high-temperature gas is also being considered (e.g. atmospheric air in volumetric receivers).

In a direct steam ST, water is pumped up the tower to the receiver, where concentrated thermal energy heats it to around $550\text{ }^{\circ}\text{C}$. The hot steam then powers a conventional steam turbine. When DSG is used as heat transfer fluid, it is not required a heat exchanger between the primary transfer fluid and the steam cycle, but the thermal storage is more difficult.

Depending on the primary heat transfer fluid and the receiver design, volumetric

Parabolic dish (PD) systems (Fig. 2.7) consist of a concave dish shaped concentrator that reflects sunlight into a receiver placed at the focal point of the dish. The receiver may be a Stirling engine or a micro-turbine. PD requires two-axis sun tracking system to follow the sun from east to west during the day, and from north to south throughout the year. This technology offers very high concentration factors and operating temperatures (Fig. 2.3).

To date, there are no large utilities using PD technology, due to several difficulties. The design of reliable engines for large plants is still under development. In addition, the initial cost of such systems is high in comparison with the CST

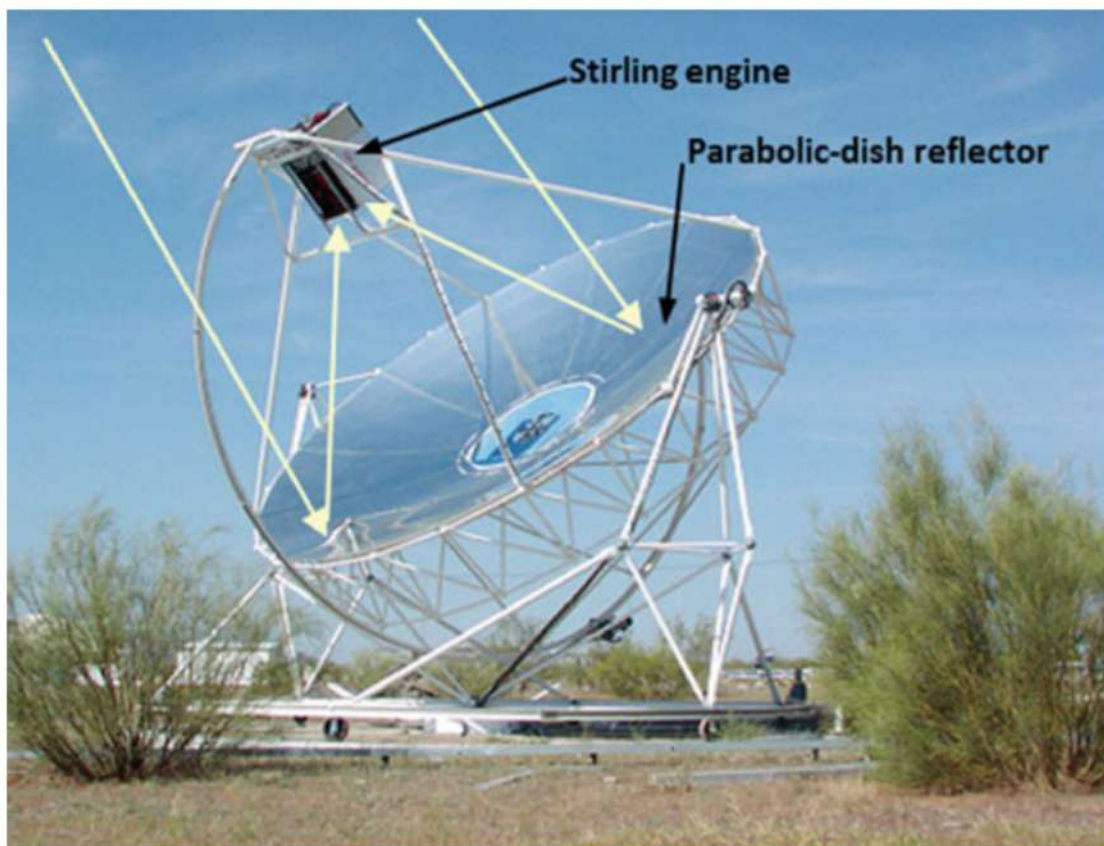


Fig. 2.7 Parabolic dish (Roldán et al. 2015)



Survival- Starting a Fire with Steel Wool & 9V Battery!

BATTERY TERMINAL SIDE POSITIVE AND NEGATIVE
-YOU CAN STAB WITH A KNIFE ANYWHERE WHEN EXPOSED TO
AIR WILL CATCH FIRE WHEN PUNCTURED

STEEL WOOL AROUND A MATCH / MATCH
NOT NEEDED / RUB ACROSS TERMINALS
SHORT CIRCUIT STEEL WOOL CATCHES FIRE



9:19 / 10:23





Can You Start a Fire with a Sandwich Bag? (Cool Survival Hack)



SPRING WIRE FROM A PEN WITH 1 TURN TO MAKE LOOP - DOES NOT
TOUCH OTHER SIDE OF BATTERY - HOLD IN PLACE WITH STRONG TAPE



3:03 / 7:53



CAREFUL!



0:38 / 0:49



Gum Wrapper Fire

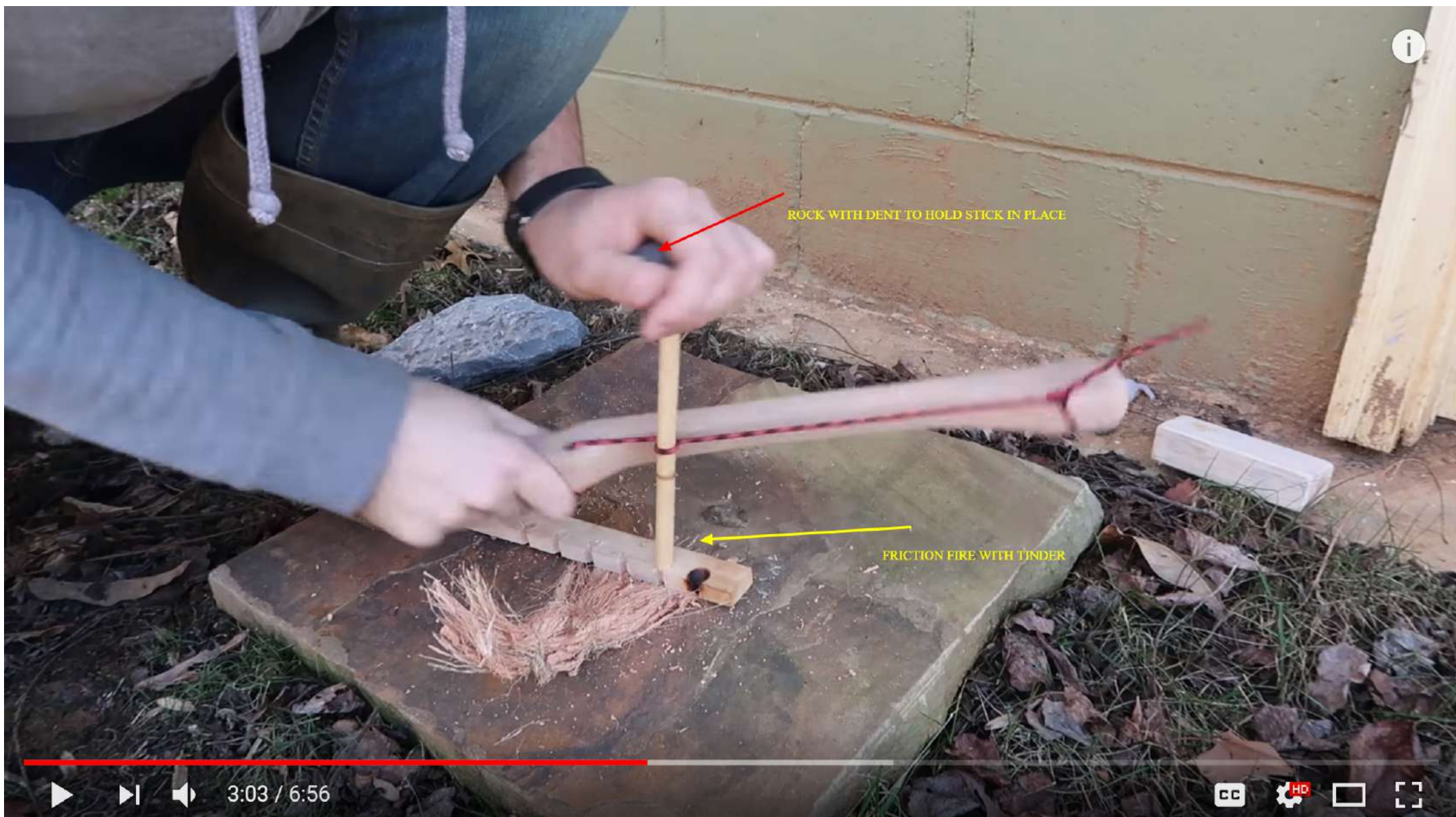
8. Pull firesteel.



8. Pull firesteel.



Survival- Fire Steel for Beginners- Tips & Tricks



ROCK WITH DENT TO HOLD STICK IN PLACE

FRICTION FIRE WITH TINDER



3:03 / 6:56





This was my best ever ice lens, and the smallest that I could make it and still get a good focus from.

Being this small it melts fast and fine tuning must be exact. But the photo shows that it is a fine collector of the suns rays!



Self Feeding Fire - 14+ Hour Fire

Up next

Al



Survival Skills: How To Get Water And Syrup From

BY TIM MACWELCH FEBRUARY 11, 2013



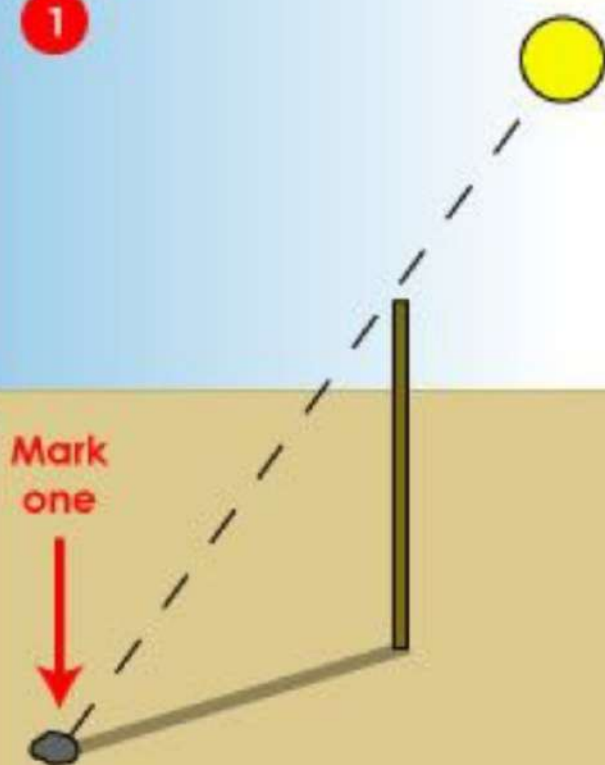
Throughout much of North America, tree sugaring time is near or already underway. Depending on the weather and your latitude, you will have trees with running sap between January and early March. Some of these trees can be sources of water if you get caught without anything to drink. Other trees can provide live-saving calories at one of the roughest times of the year for survival.

CAN FIT WITH TUBBING -MAPLE, HICORY, BIRCH, BOX ELDER, WALNUT ALSO PINE SYCAMORE
WHEN YOU TAP FOR WATER WILL SOUR WITHIN HOURS OR BOIL INTO SAP WHICH LAST FOR



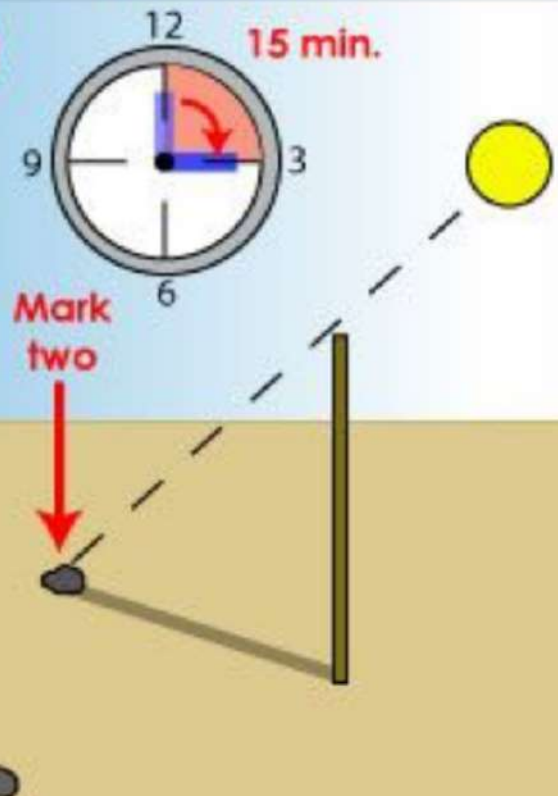
Finding True North With the Shadow-Tip Method

1



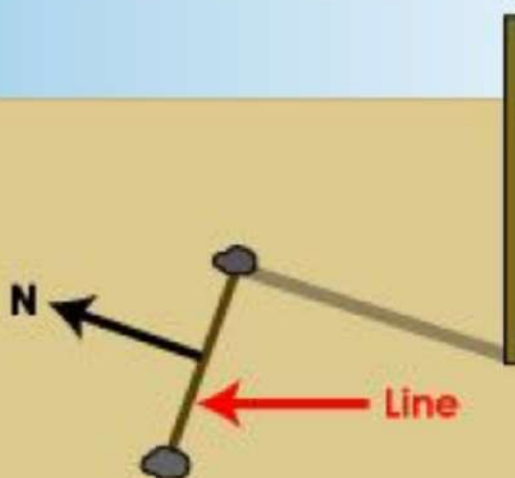
Place a stick in the ground and mark the shadow tip. This marks West.

2

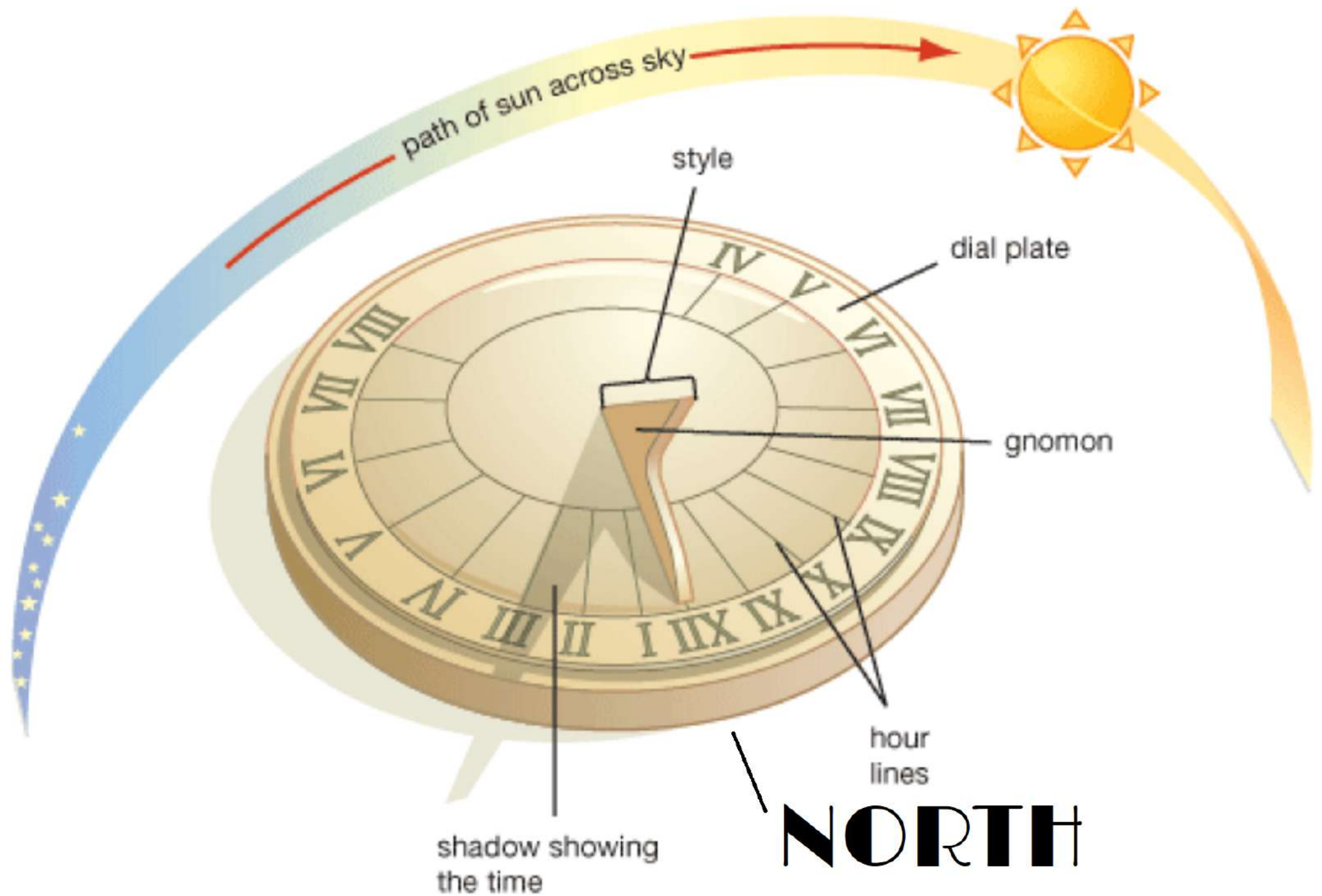


Wait 15 minutes. Mark second shadow tip. This marks East.

3

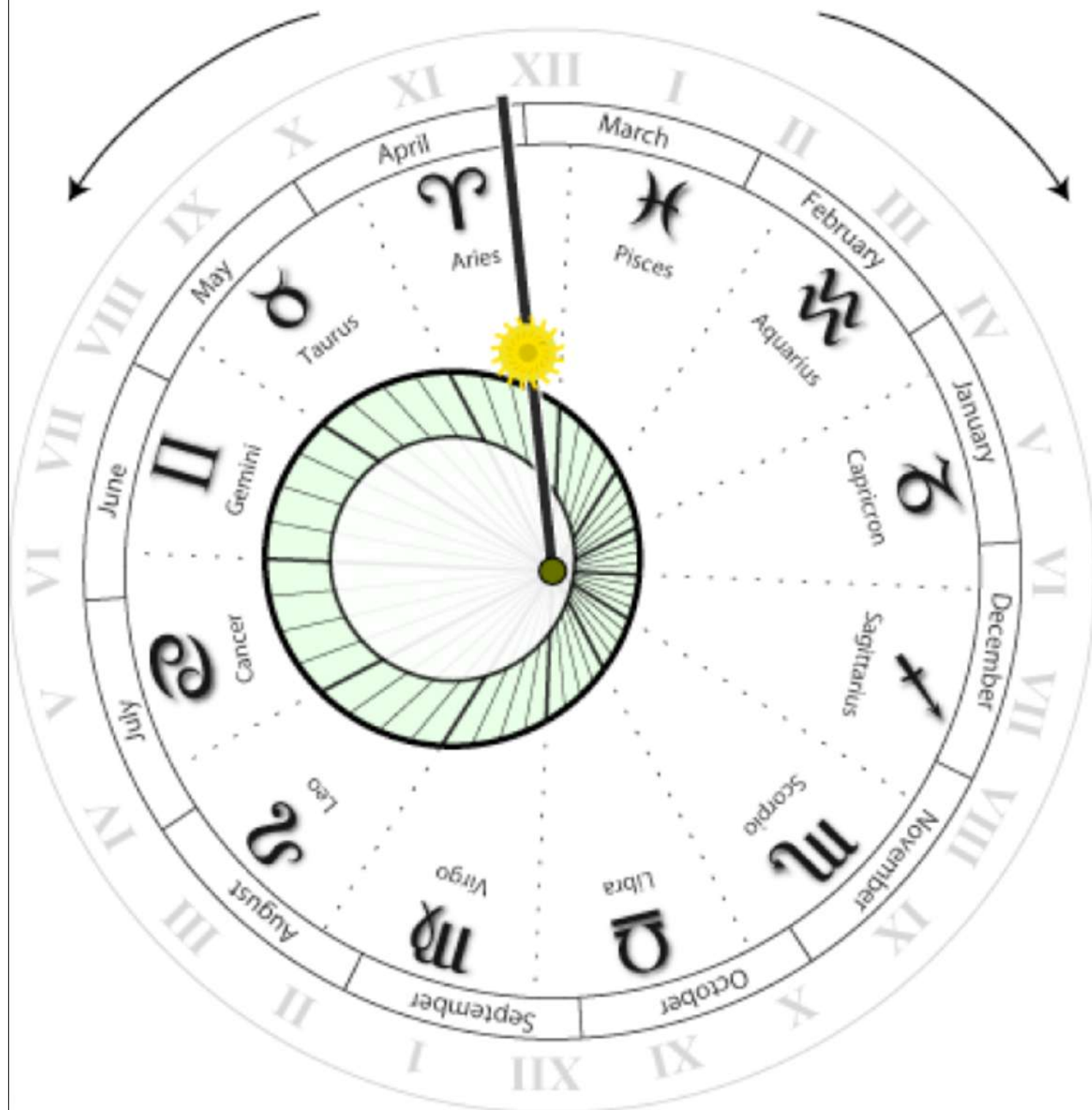


Draw a straight line between the West and East points. Then, draw a perpendicular line through it to represent true North and South.



sun rotates around zodiac ring
one revolution per year

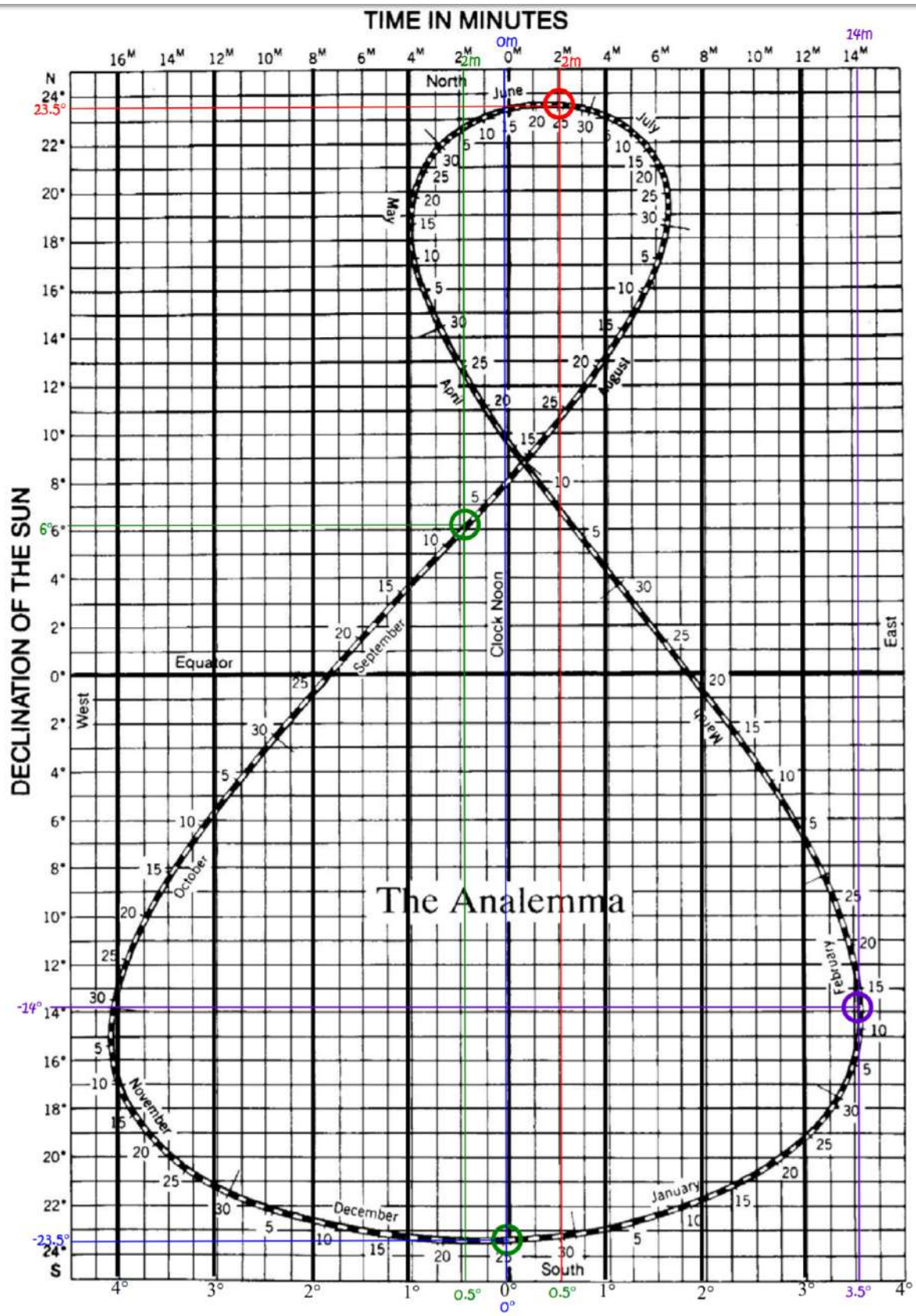
sun rotates around hour ring
one revolution per day



MCMXCIX



BOB NOON JOAN



Hermetic Order of the Golden Dawn

Polygons and Polygrams

HEXAGON



power of the Head operating in nature by the dispersal of the rays of the Planets and the Zodiac emanating from the central Sun.

HEXAGRAM



presidency of the Sun and Moon over the 4 Elements united in and proceeding from the Spirit.

HEPTAGRAM



the Triad operating in each Planet, and the Planets themselves in the week and in the year; the weekly order of the Planets is formed from their natural order by following the lines of Heptagram.

HEPTAGRAM

Star of Venus



Entrance of the Seven Planets symbol of the 7 rays of nature, and of the 7 lower Sephiroth of the Bride.

OCTOGRAM



Triad operating in each Element in dual form, i.e. of Positive and Negative, under the powers of the name of Tetragrammaton Adonai as it is written bound together, Yod Heh Vau Daleth Heh Vau.

OCTOGRAM

Star of Mercury



the binding together of the concentrated Paradise and Negative forces of the Elements under the name of YHVHADNI.

ENNEAGRAM



Triple Ternary operating both in the Seven Planets with the Head and Tail of the Dragon of the Moon, and with their Alchemical principles countercharged and interwoven.

ENNEAGRAM

Triple Ternary



Triple Ternary of the Three Alchemical principles themselves.

ENNEAGRAM

Star of Luna



administrator to the South of the virtues of the Solar System under the Sephiroth.

DEKAGRAM



combination of the 3 Alchemical principles with the Spirit and the 4 Elements in their Positive and Negative form, under the presidency of the 10 Sephiroth themselves.

DEKAGRAM

The Ten Sephiroth



concentrated and continuous operations of the Ten Sephiroth in nature.

DEKAGRAM

Duplicated Letter Heh



operation of the duplicated Heh of the Tetragrammaton and the combination of the Positive and Negative forces of the Spirit and the four Elements under the presidency of the Potencies of the Two in Berek the Foundations of the fourfolded Malkuth, the Great Mother.

ENDEKAGRAM



concentrated action of nail in the Averse Triad, symbolized by the Eleven Doors of Eden, the horns of the Red Dragon when he awakes reference to one of the Atlas Diagrams, the Garden of Eden after the Fall.

ENDEKAGRAM

Restriction of Tail



restriction of the Sephiroth.

ENDEKAGRAM

The Aippoth



concentrated force of the averse and nail Sephiroth.

ENDEKAGRAM

Aliphoth Princes



12 Princes of the Aippoth who are the heads of the Tail operating in the months of the year.

DODEKAGRAM

Signs of the Zodiac



dispersal and concentration of the Zodiac masculine and feminine signs. The masculine being Aries, Gemini, Leo, Libra, Sagittarius and Aquarius and the feminine Taurus, Cancer, Virgo, Scorpio, Capricorn and Pisces.

DODEKAGRAM



concentrated force of the four Triplets of the Zodiac operating through nature.

DODEKAGRAM



Three Qualifications of Aquarius, Succedent, Culminant and Minuend.

DODEKAGRAM

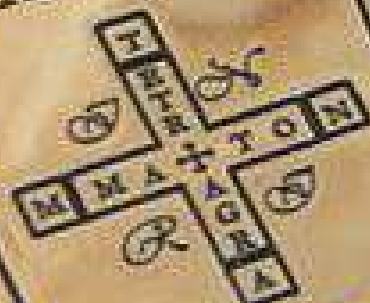
Star of Luna



the 24 Hours of the scheme established over the Positive and Negative potencies of the Elements in the Zodiac and over the 24 hours in the day.



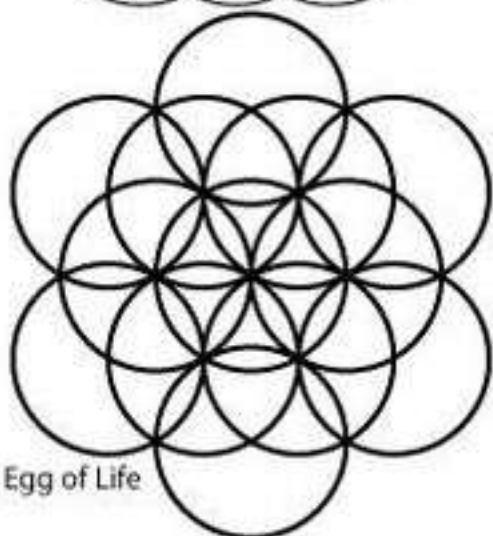
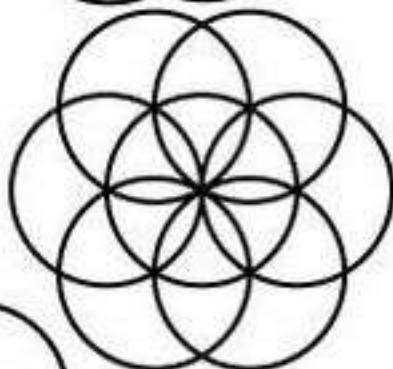
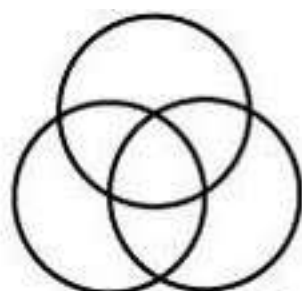
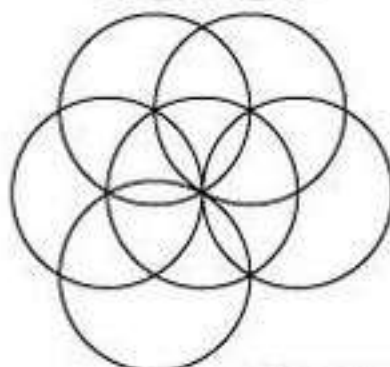
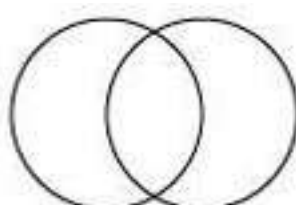
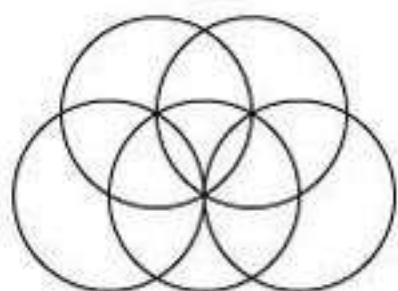
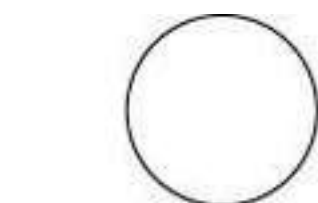
GABRIEL
MICHAEL
HANIEL



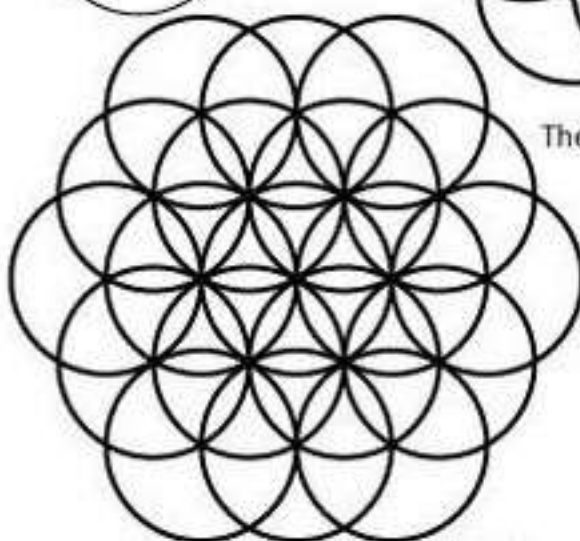
TZAFQIEL
TZADKIEL
SAMUEL



RAPHAEL

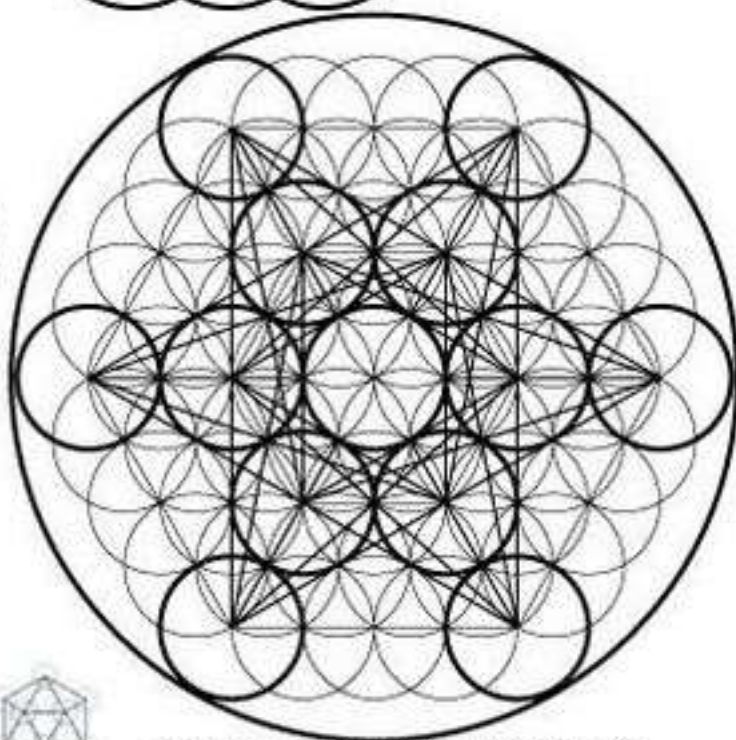
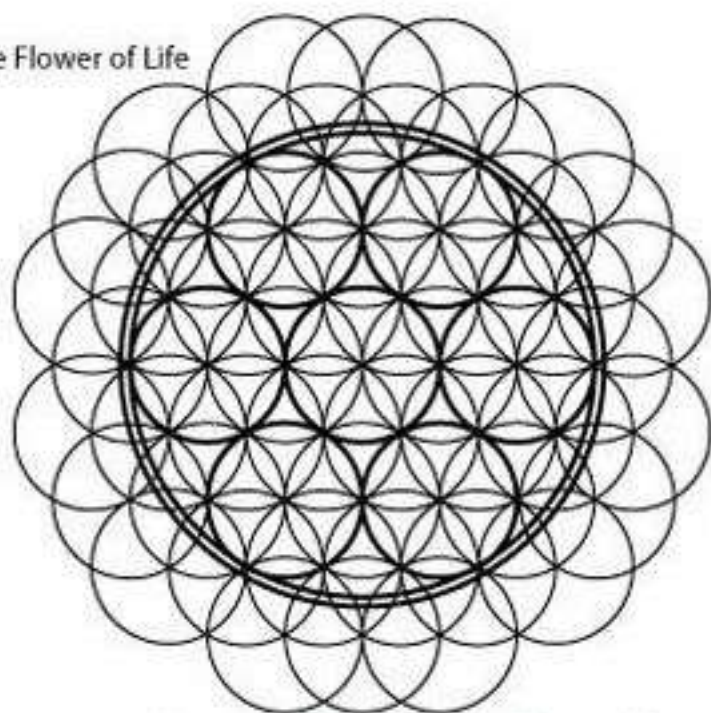


The Egg of Life



The Seed of Life

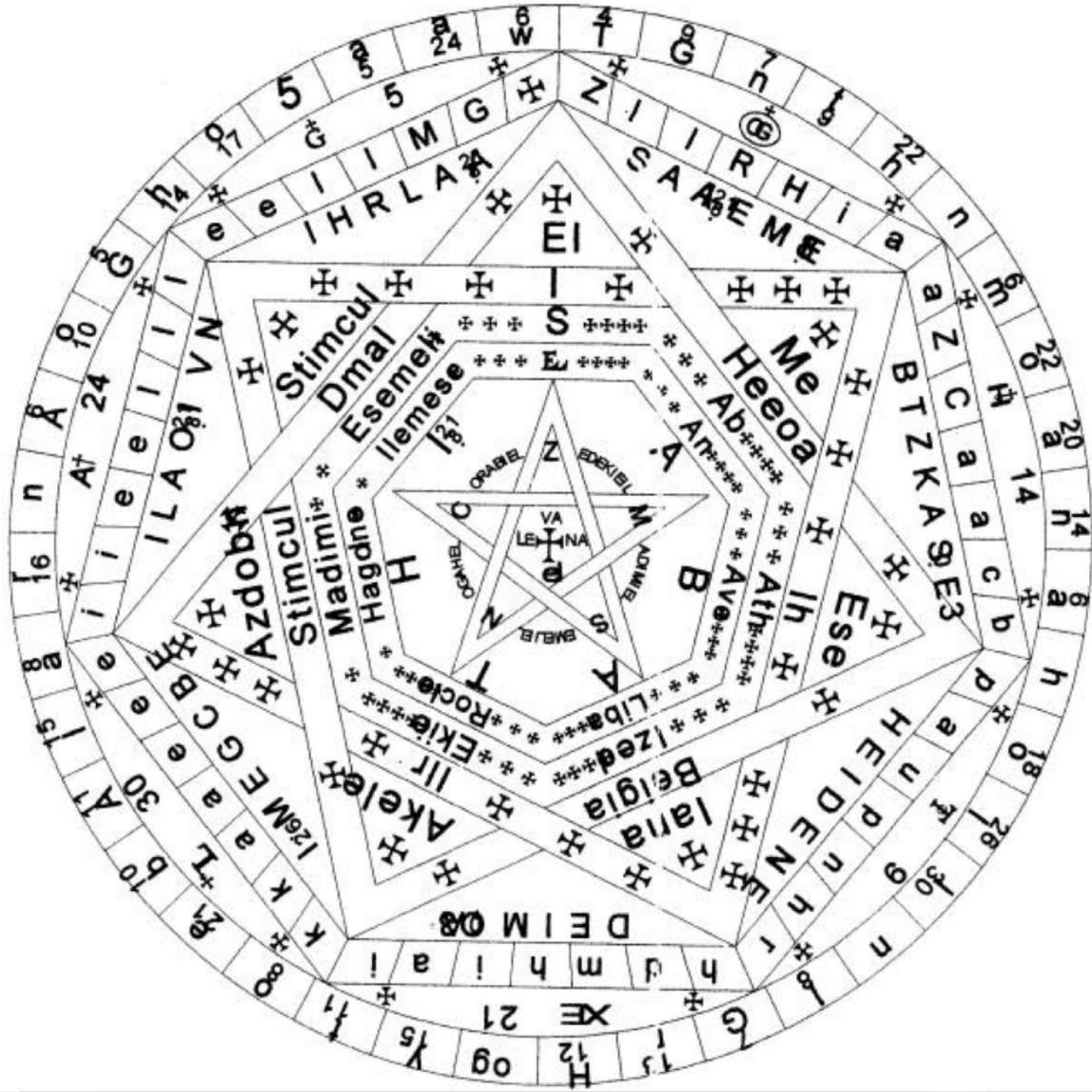
The Flower of Life

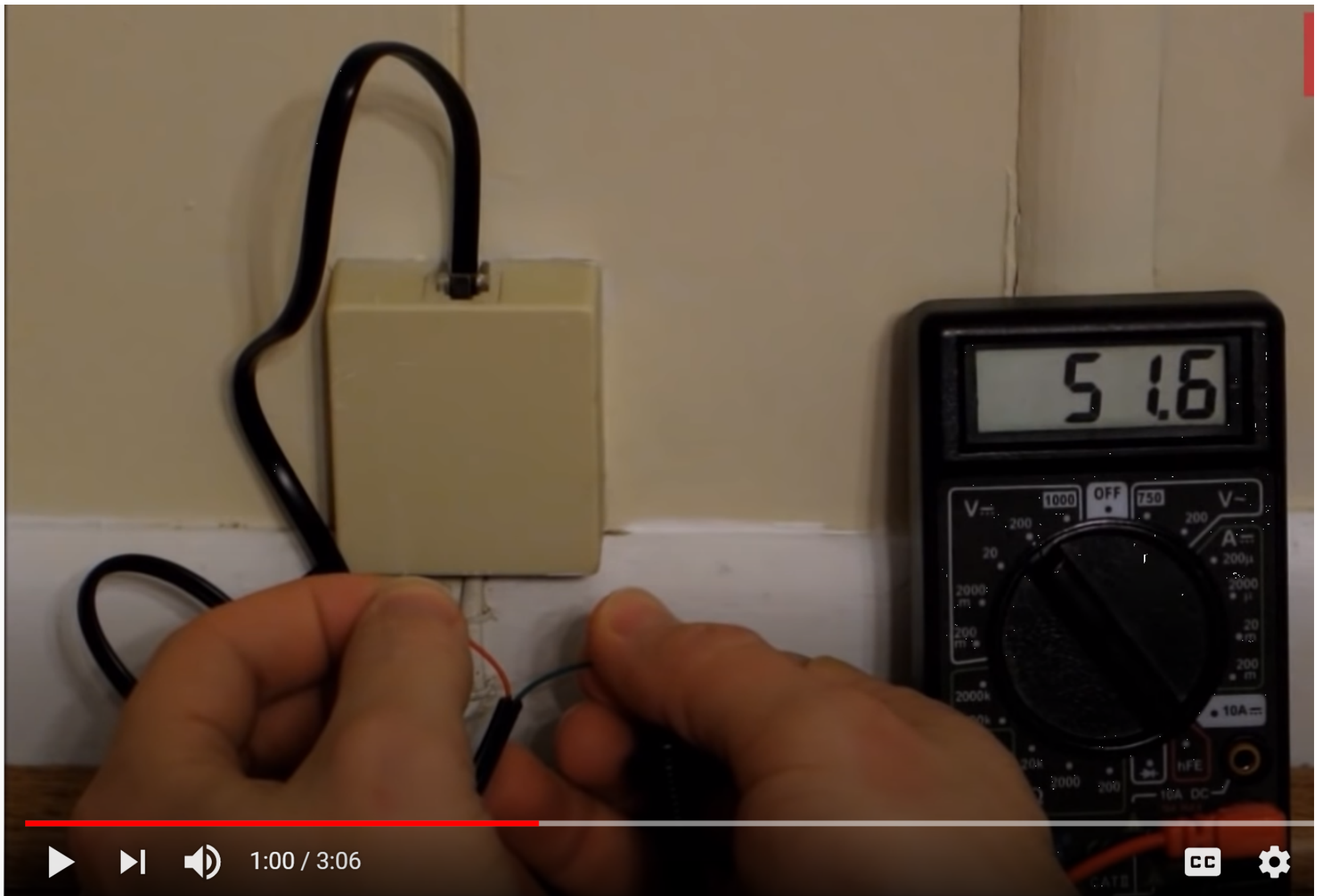


The Fruit of Life and Metatron's Cube
 <--- contain within the 5 platonic solids



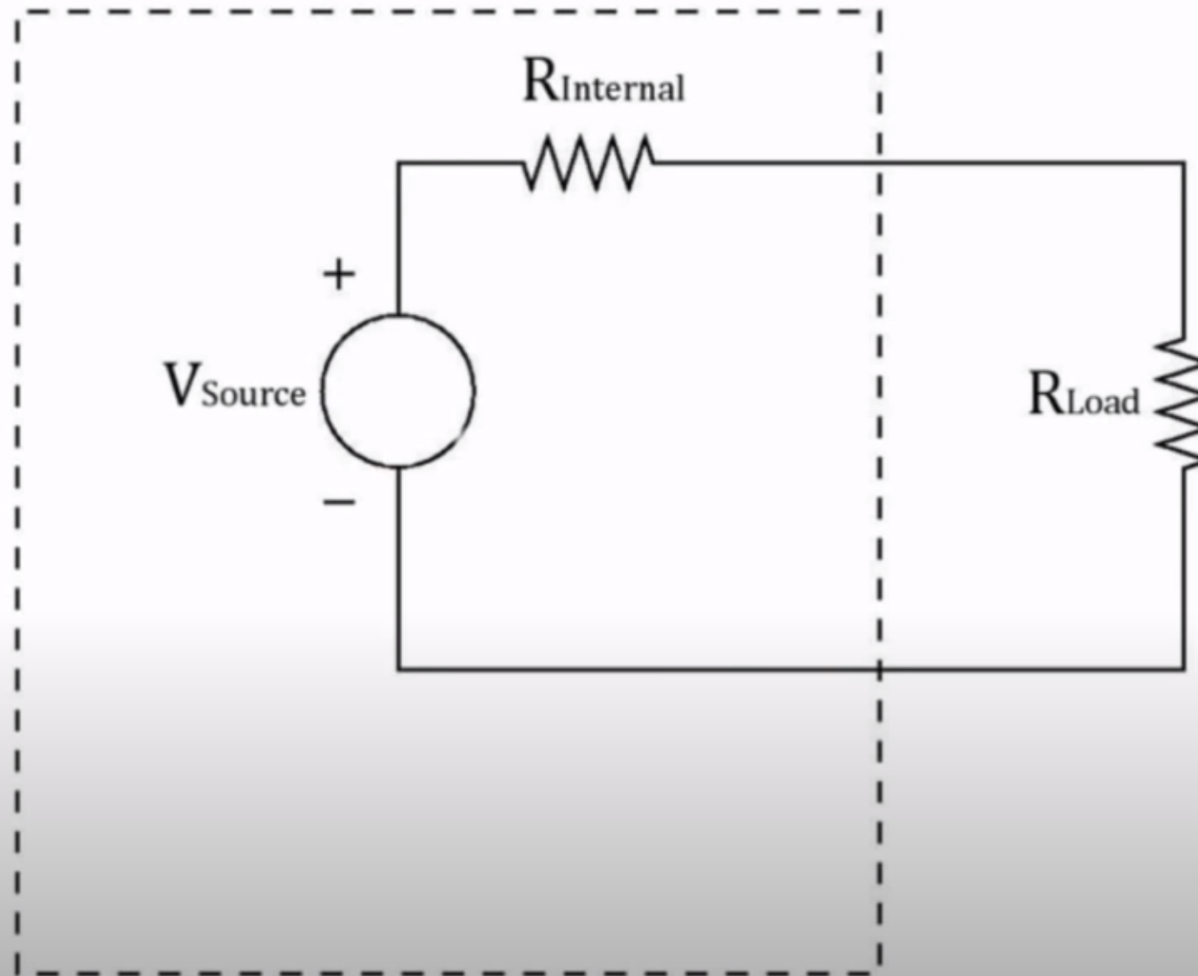
Metatron's Cube Star Tetrahedron (Star of David) (Aum) Hexahedron (Cube) Octahedron Dodecahedron Icosahedron



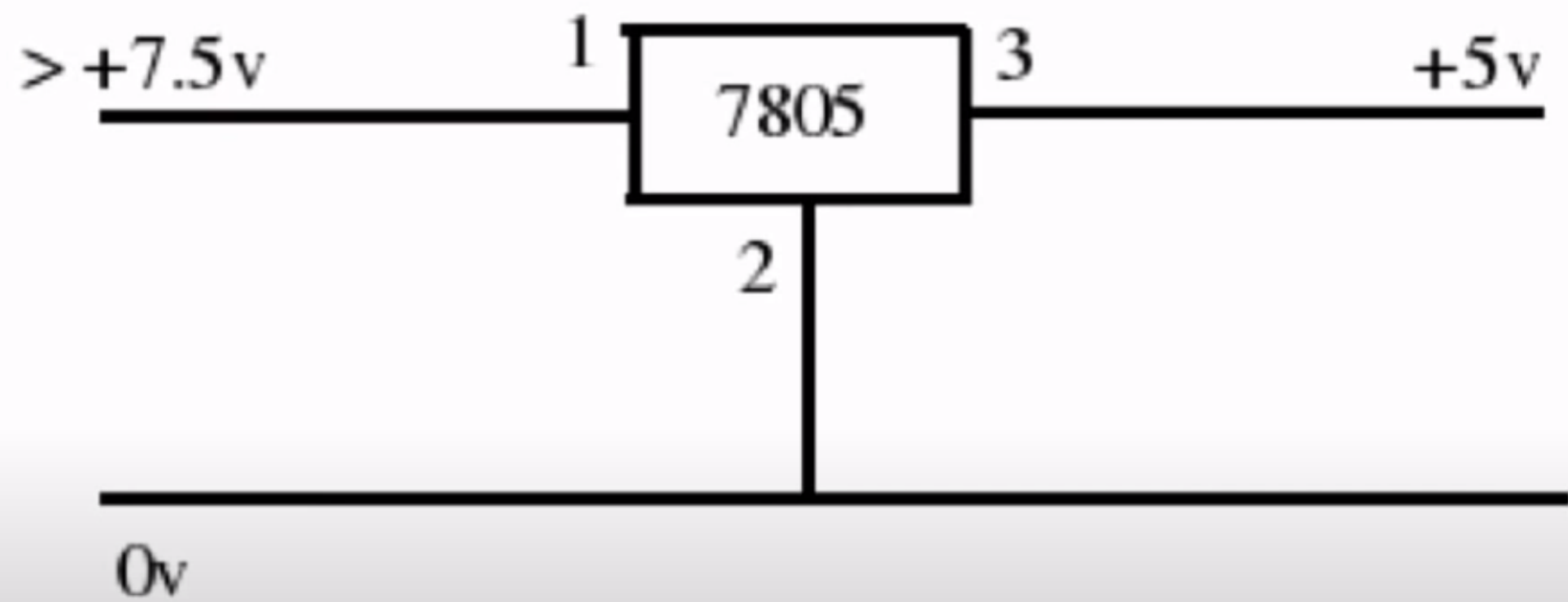


DIY Hacks & How To's: Emergency Power from a Land Line

Make:



$$V_{\text{Load}} = V_{\text{Source}} \times R_{\text{Load}} / (R_{\text{Load}} + R_{\text{Internal}})$$



7805

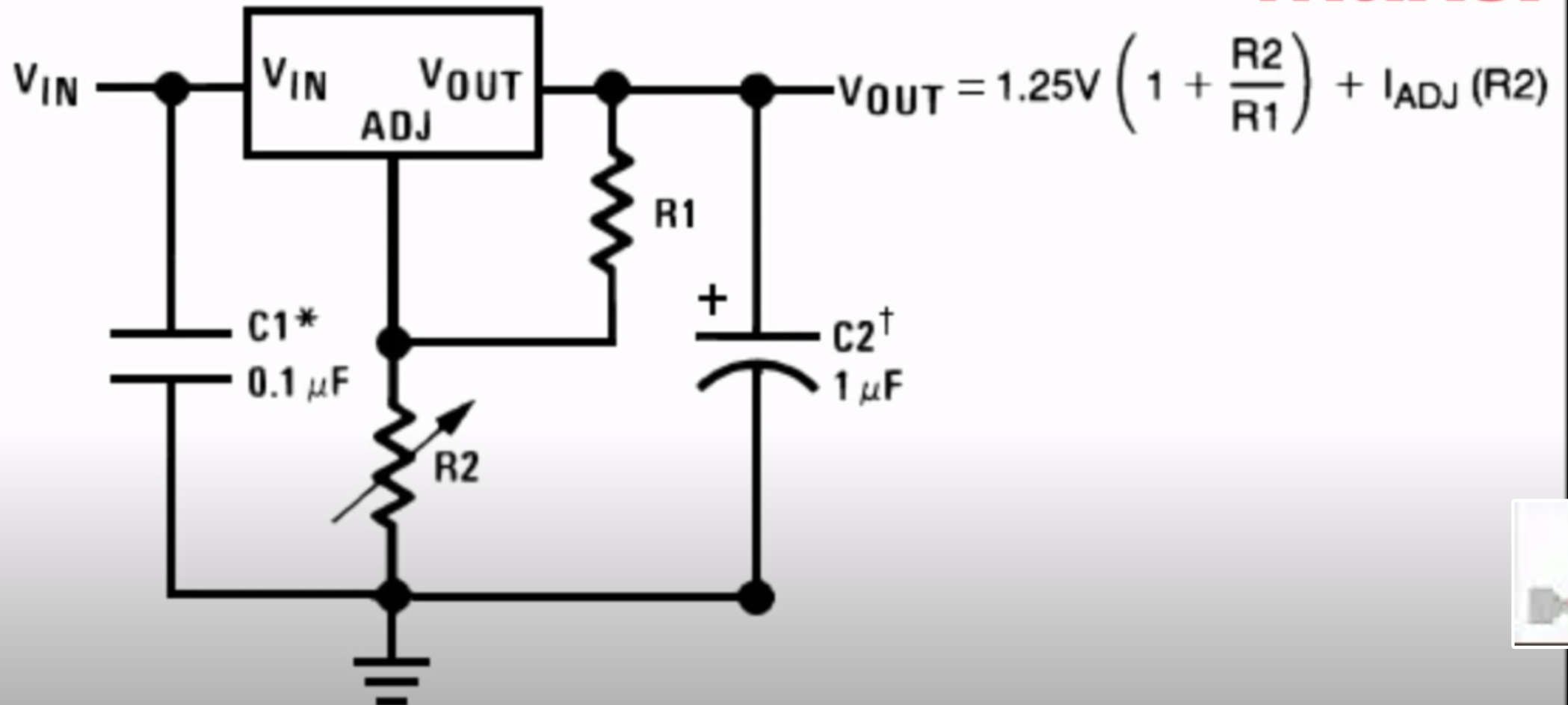


78L05



LM317 / LM338 / LM350

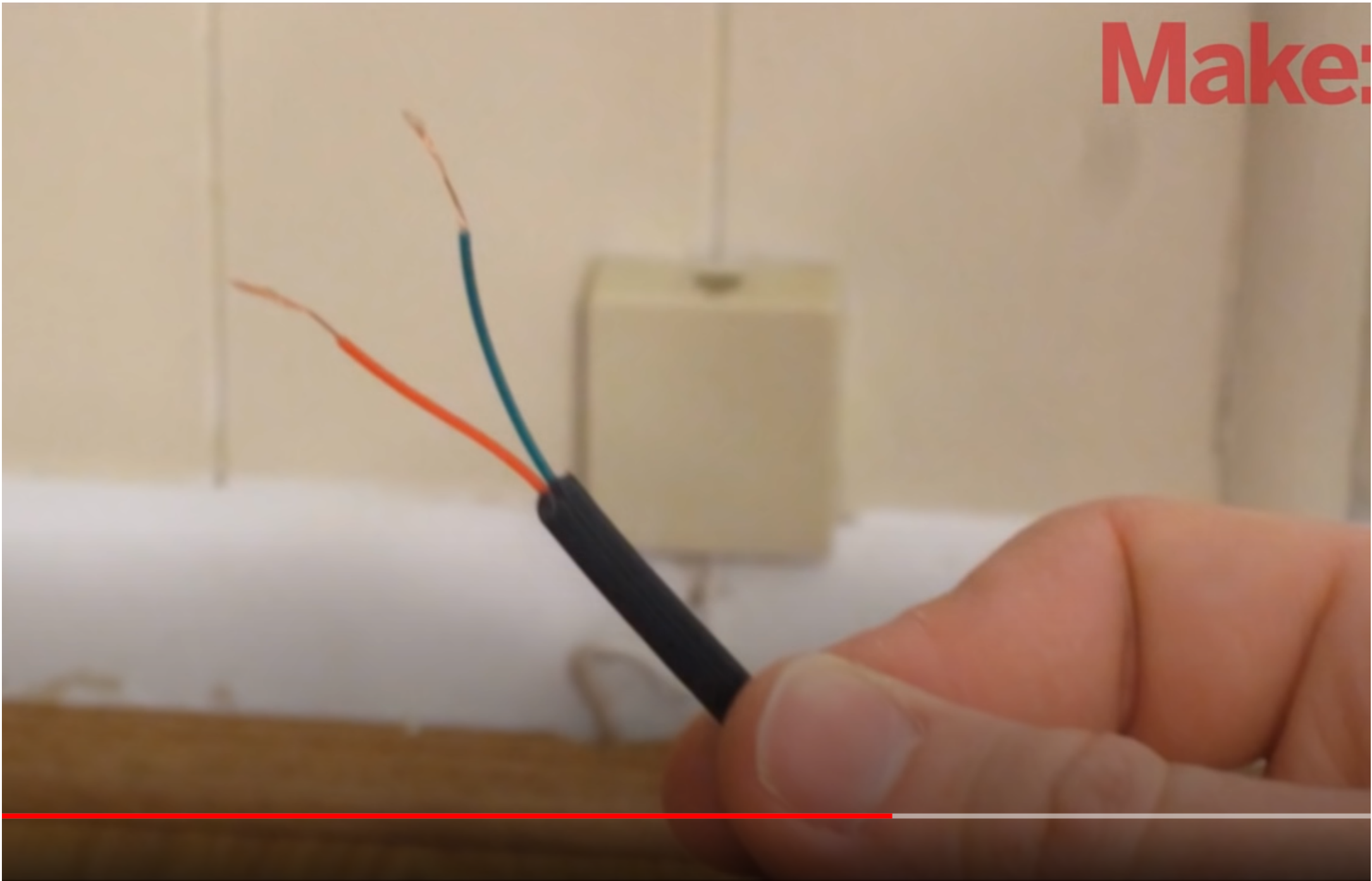
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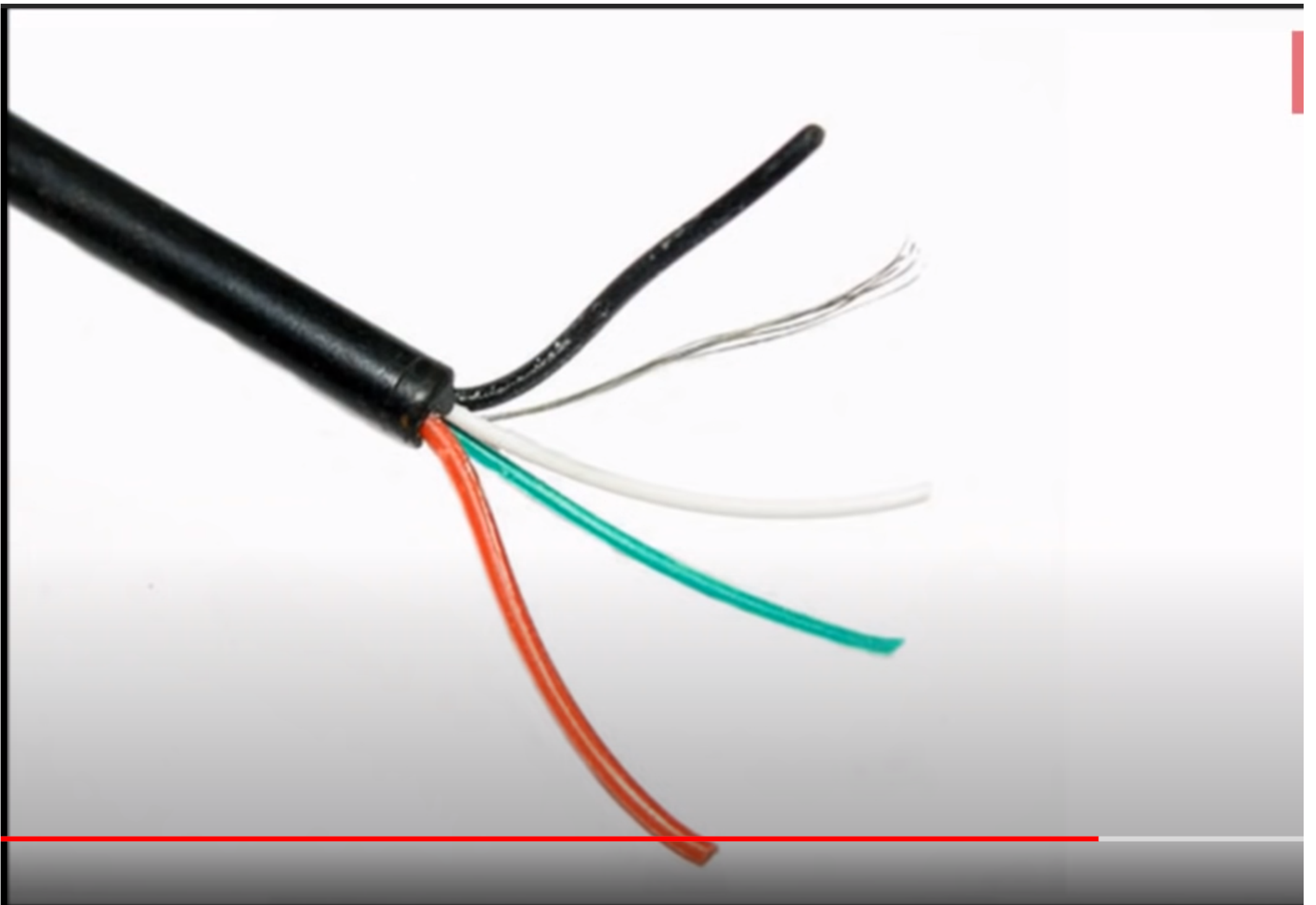


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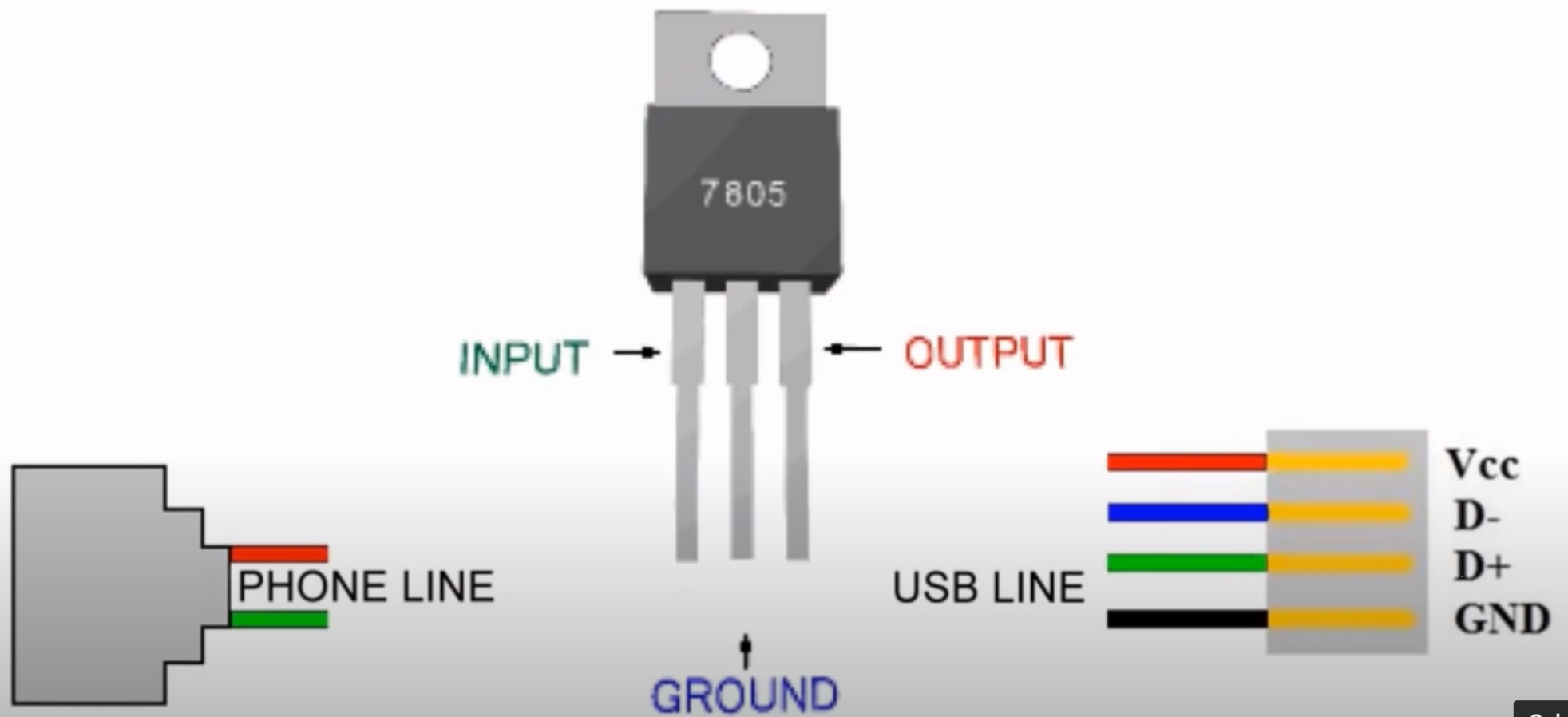


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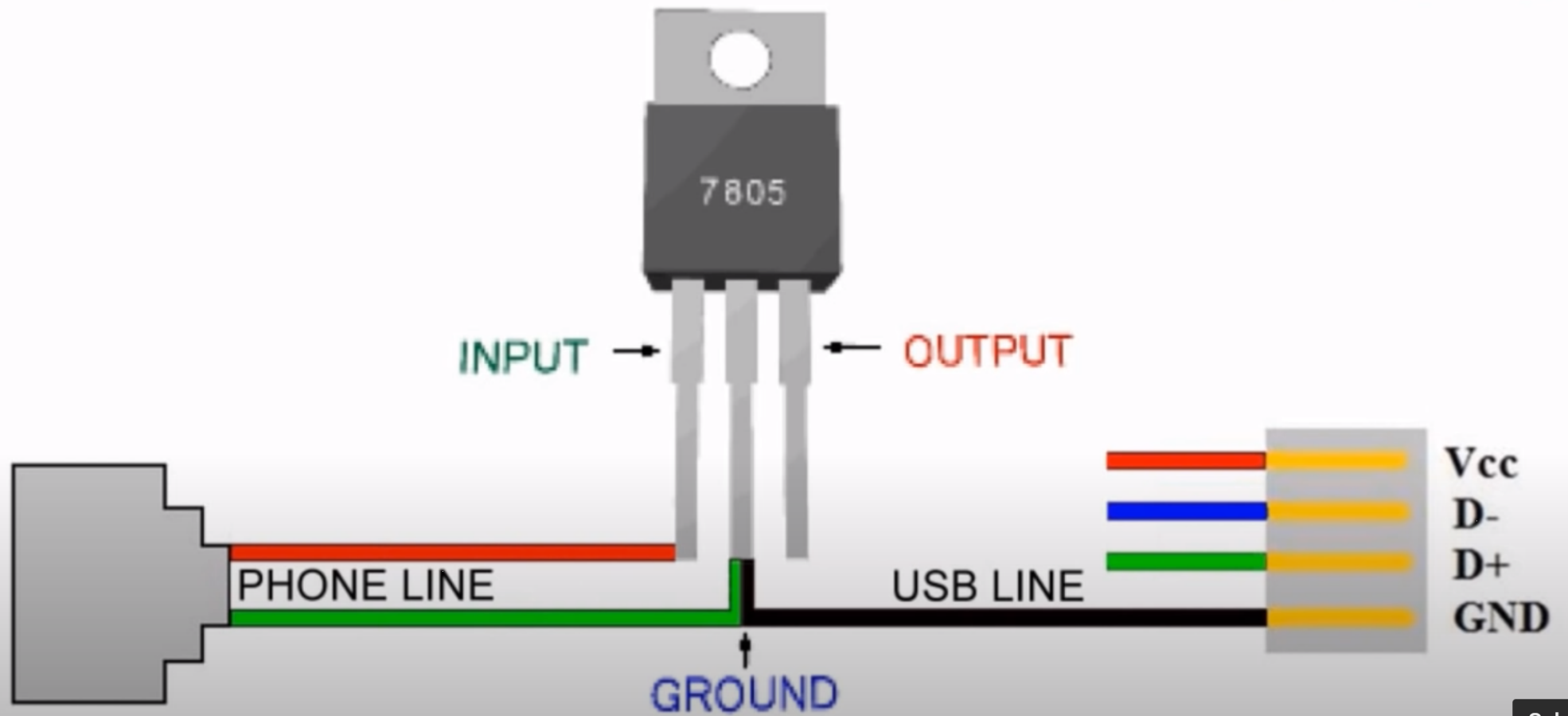


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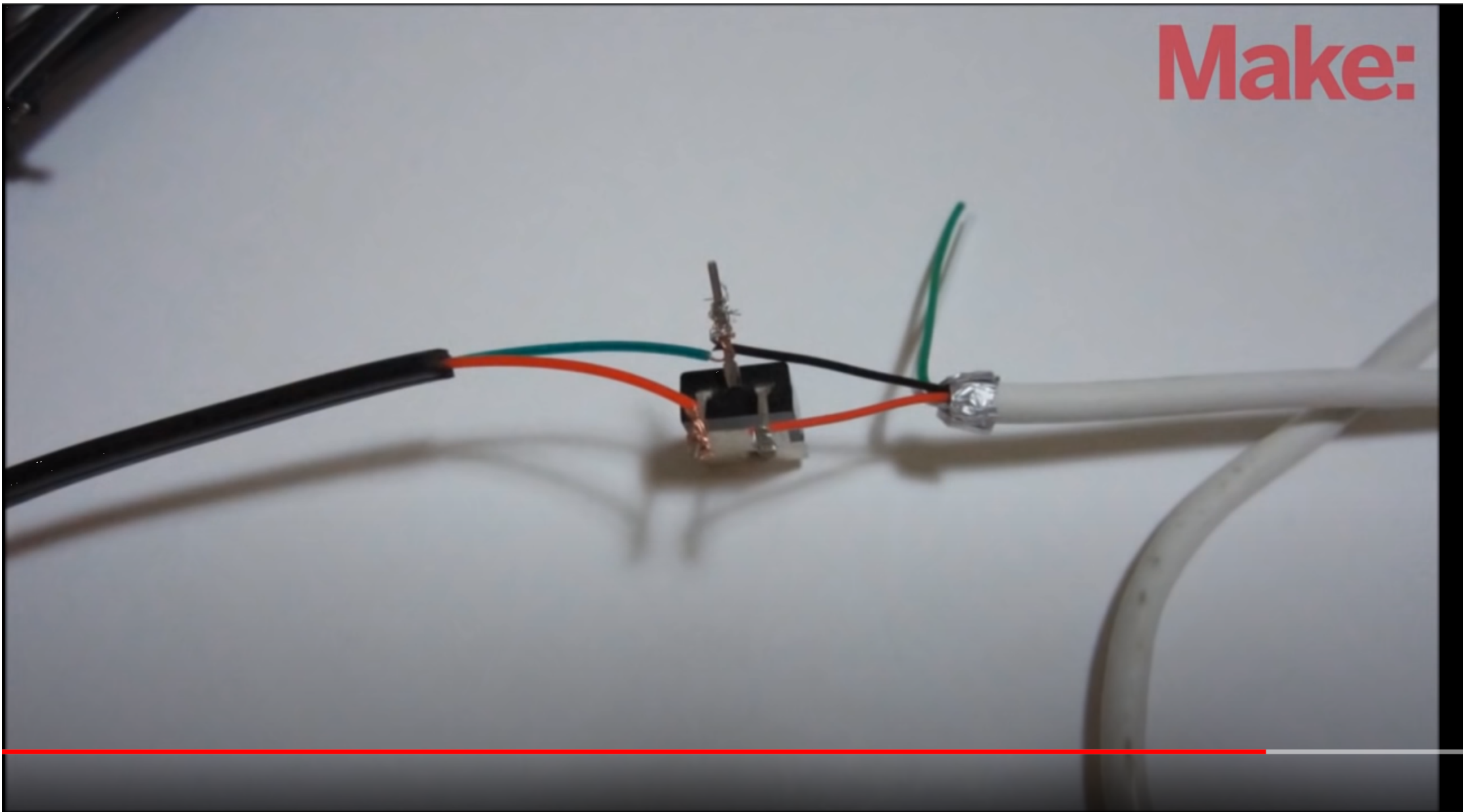
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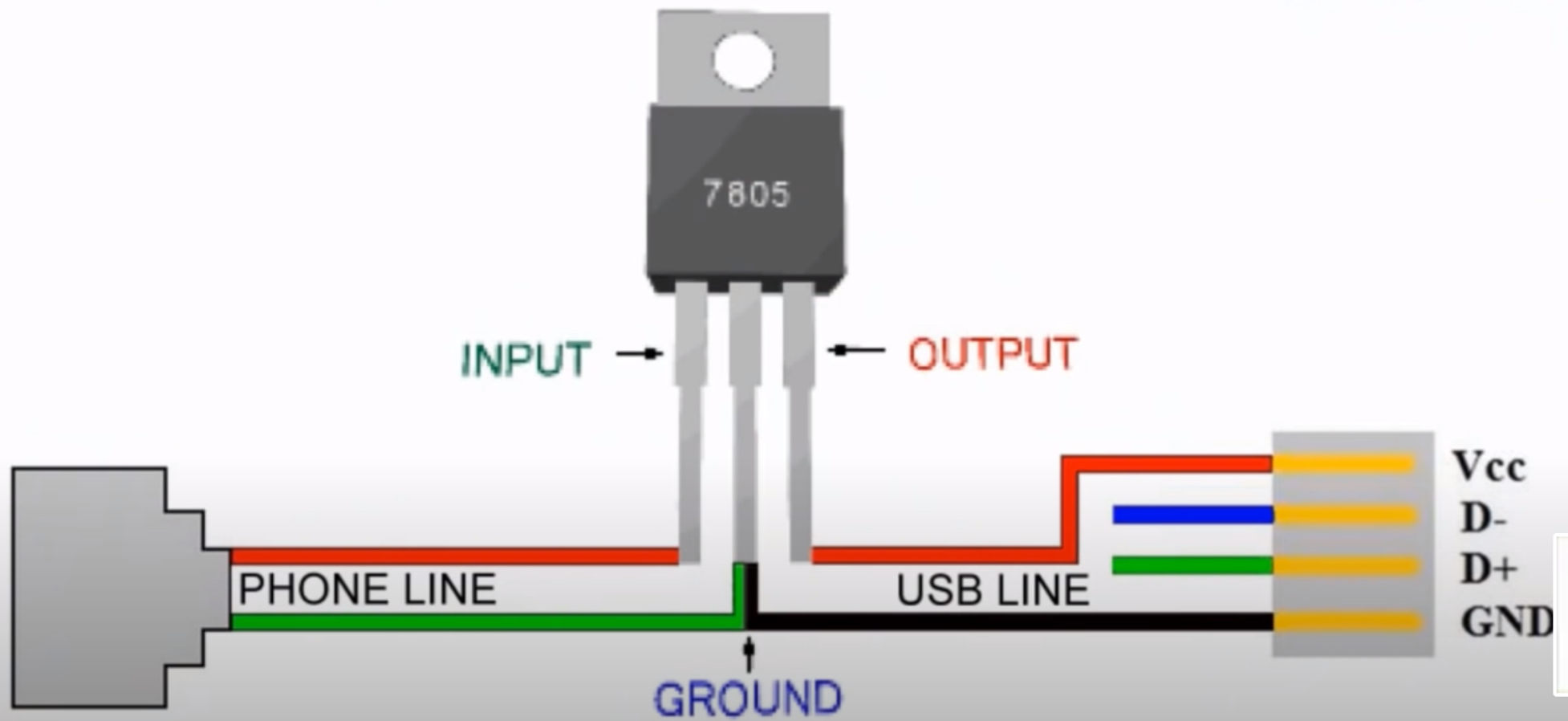


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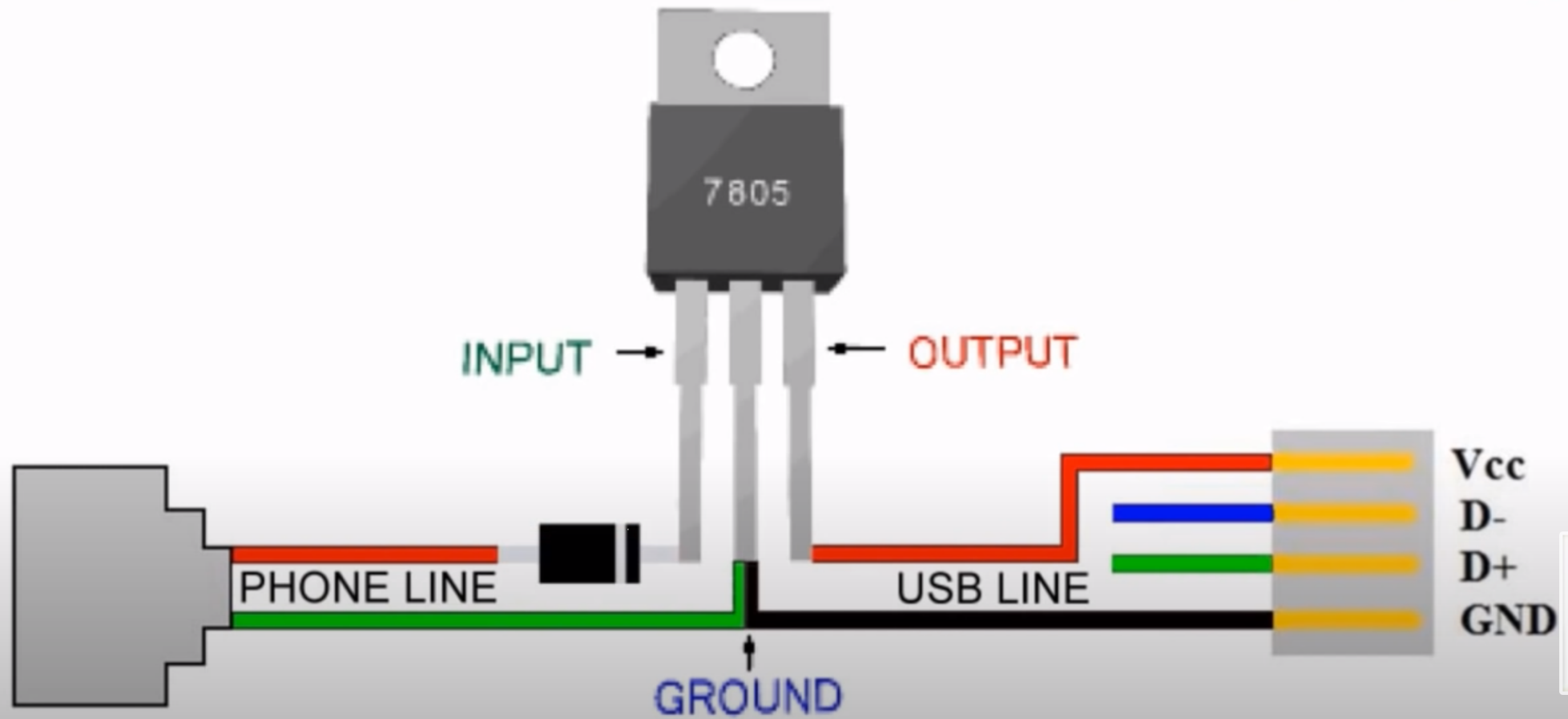


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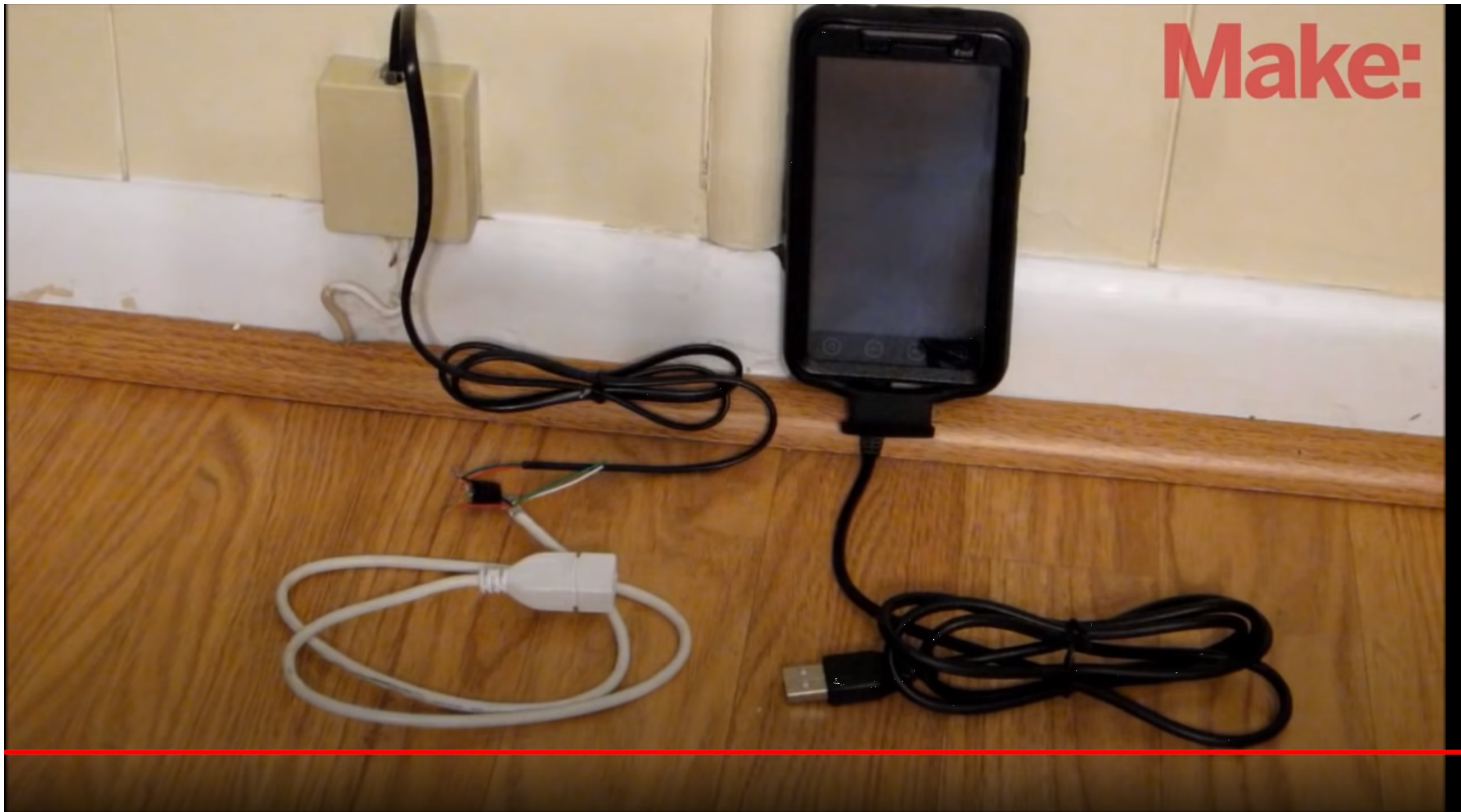




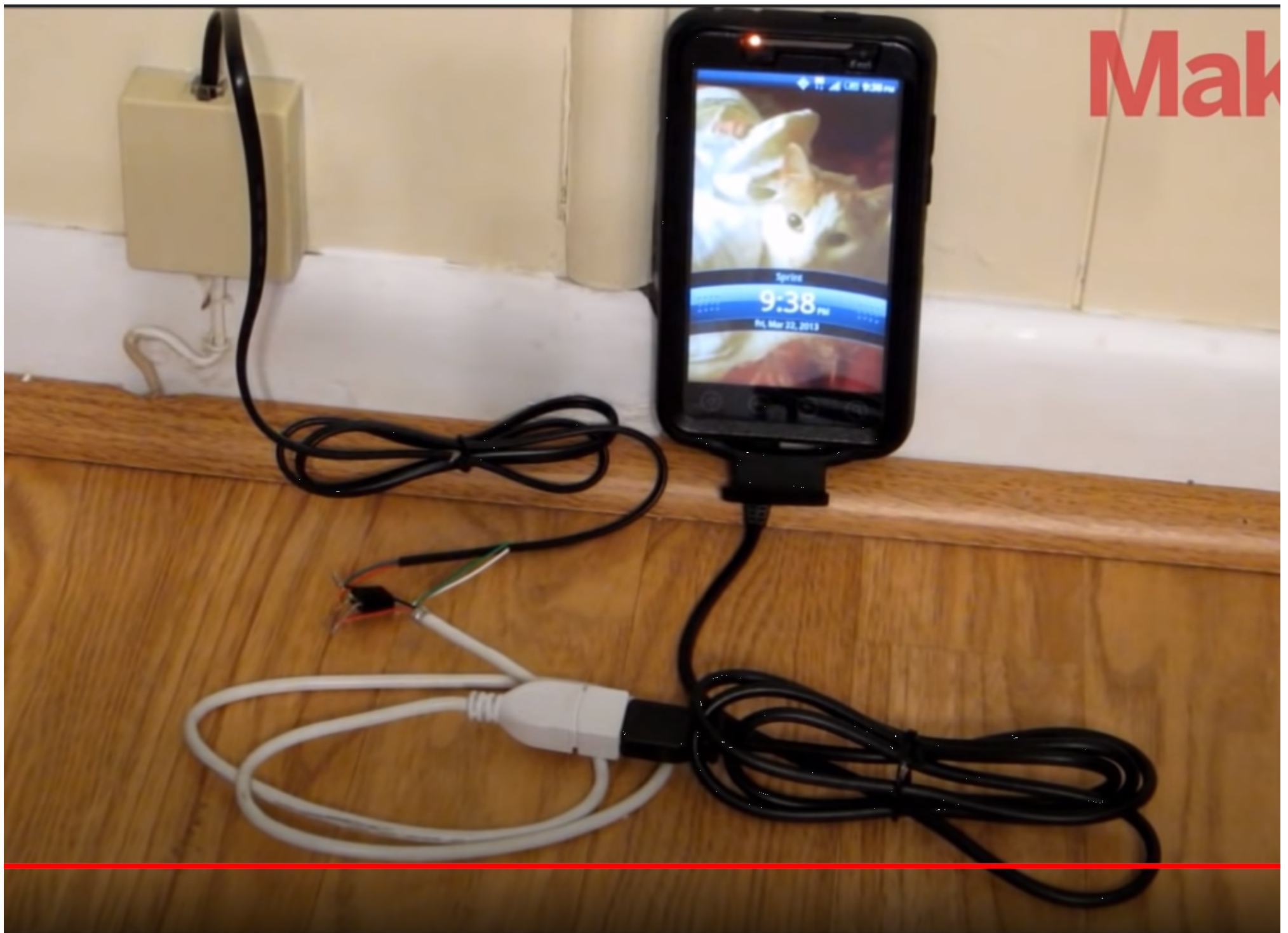
Make:



Make:



Mak



LISTA DE COMPONENTES - ESQUEMA NA OUTRA PÁGINA

2 diodos de germânio OA96 ou 1N60

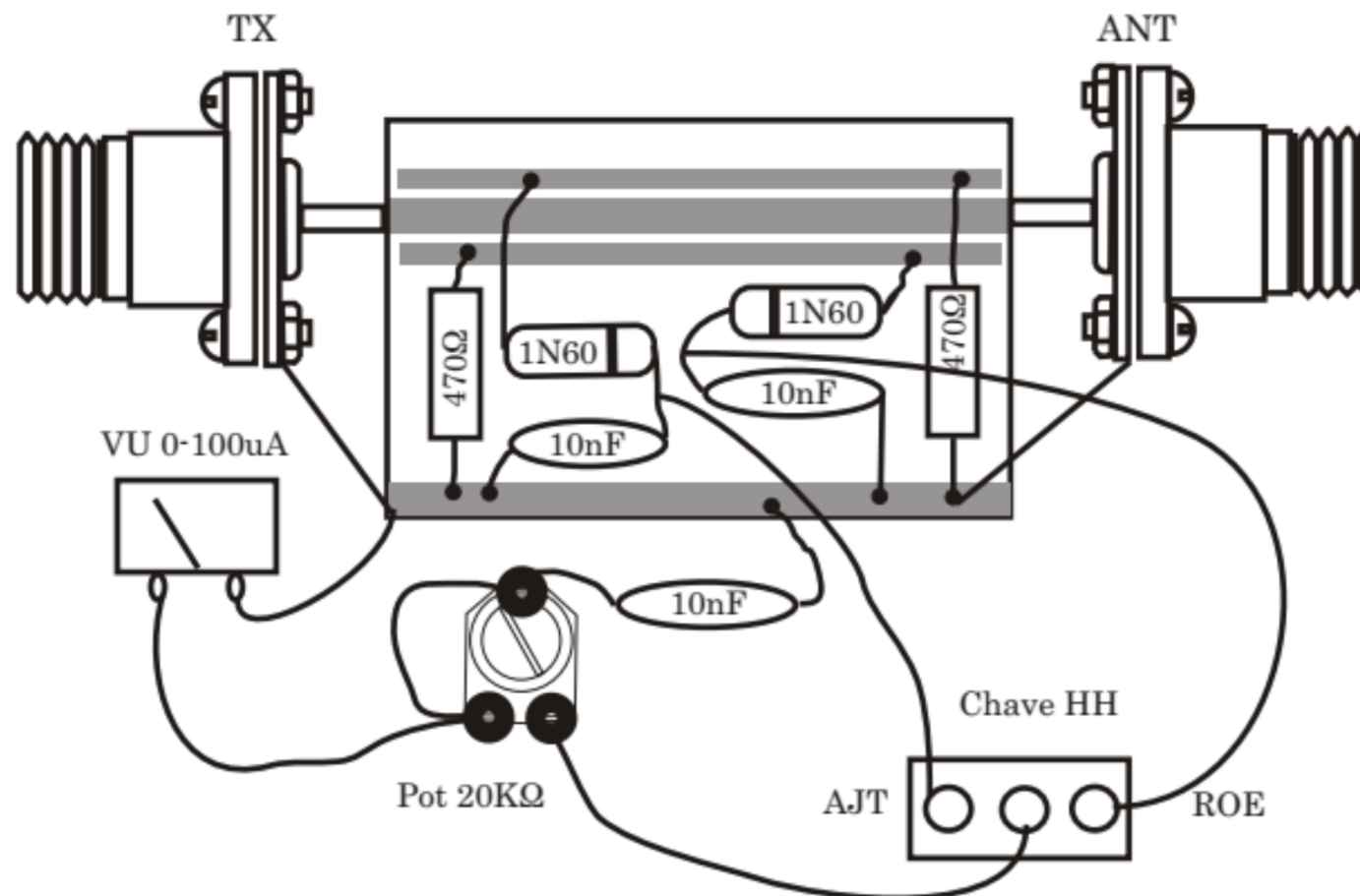
2 resistores de 470 ohms*

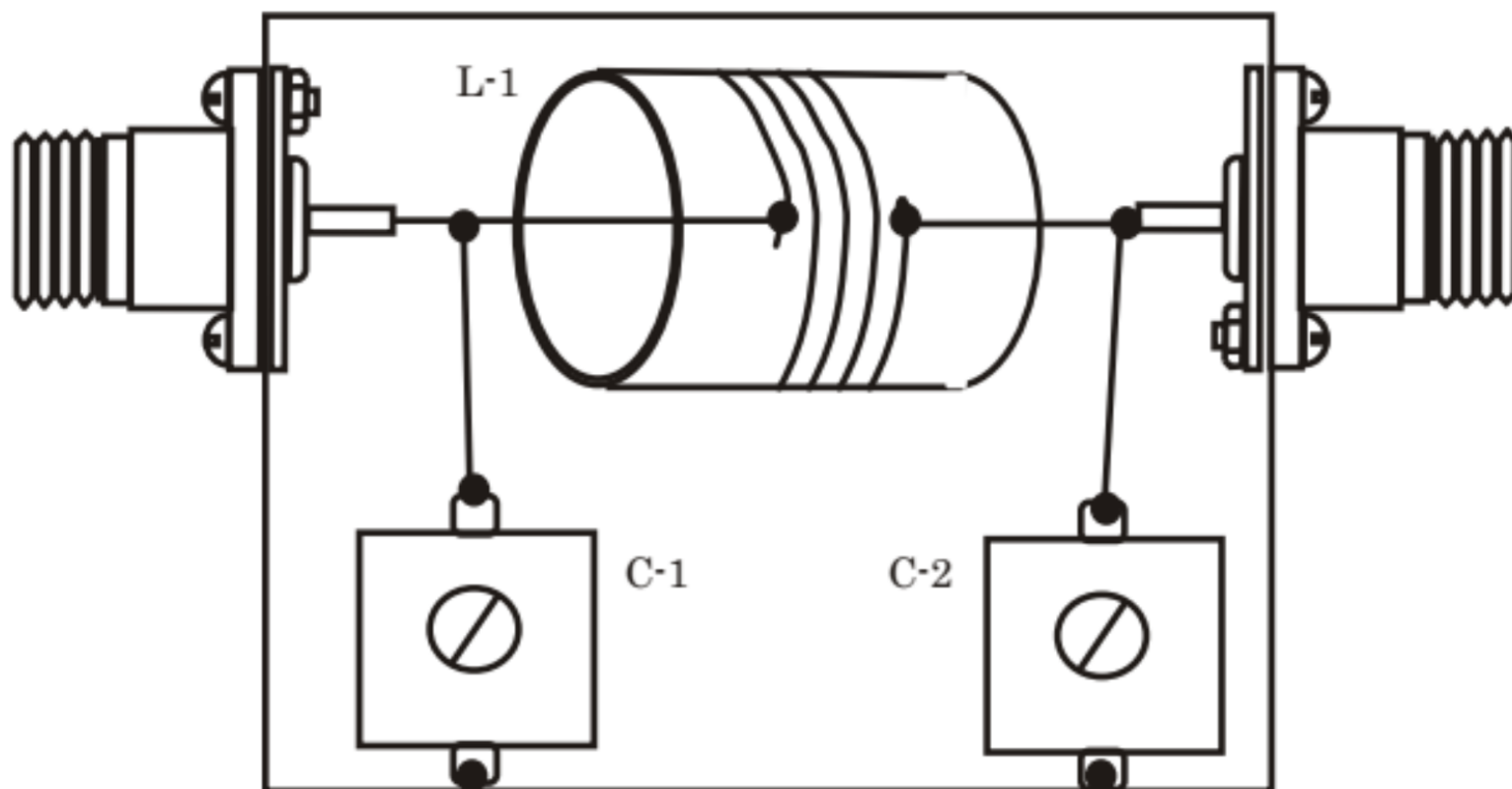
1 Potenciômetro linear de 20 K ohms

3 capacitores cerâmicos NPO de 10.000pF (10nF, 103Z ou 0,010 uF)

1 medidor de 100 uA (VU-meter)

1 chave HH duas posições





DADOS CONSTRUTIVOS DO ACOPLADOR

L1 - 5 espiras auto-suportadas de fio esmaltado nº 14 AWG (1,6 mm) em forma de 12,5 mm (1/2 polegada).

C-1 e C-2 - Trimmer ou capacitor variável de 3 a 30 pF.

Dois conectores coaxiais.

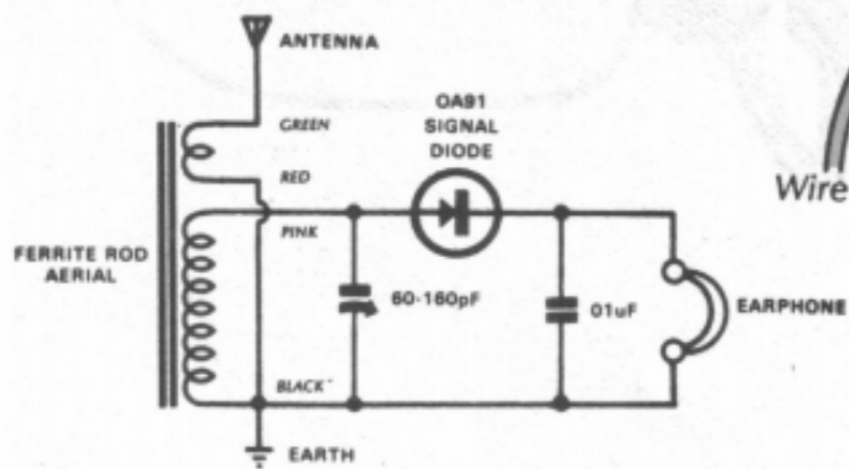


Figure 1

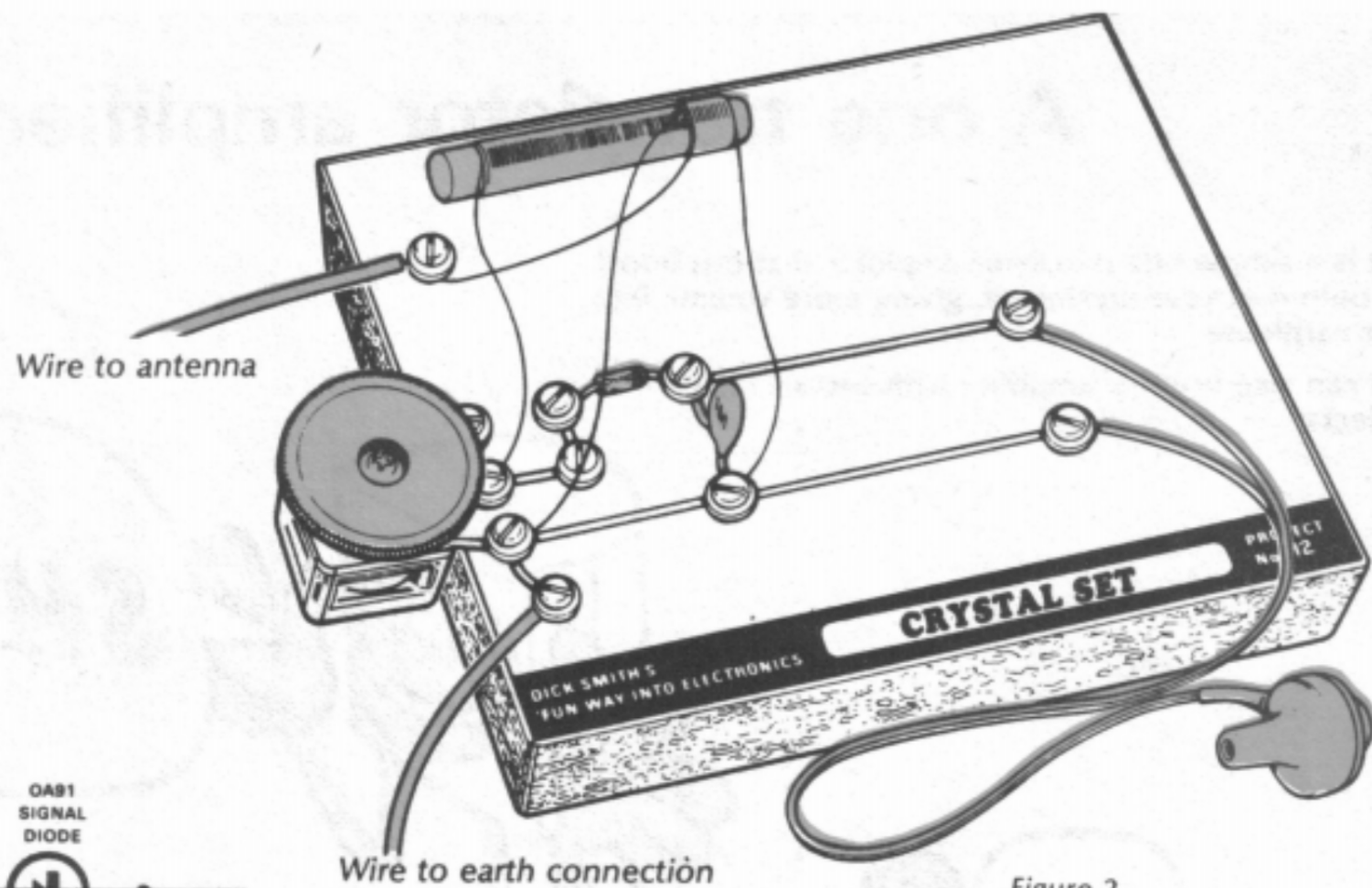


Figure 2

Shopping List for Ingredients

- Standard Muffin Mould 100-150 ml (3-5 oz.)
- Polyester Resin – clear
- Aluminium shavings / filings
- Clear quartz crystals, that is. But they can also be milky or otherwise of “inferior quality”. any small crumbs of crystal breakage will suffice
- The catalyst that will bring about the chemical reaction that makes the resin cure.
- Pigment (if you would like colour)
- Silicone release wax / baking fat
- A protective mask (against organic fumes as with spray painters)
- Gloves
- Apron
- Containers to hold the shavings and crystal chips separately.
- Sponge
- Mixing Jug
- Pouring container
- Mixing Bucket
- Dowel rod to stir bucket with if you add pigment



ORGONISE AFRICA
PLANETARY ORGONE HEALING

1. Wax the form

We make our [TBs](#) in standard muffin moulds, but you can use anything that will hold approximately 100-150 ml (3-5 oz.) of resin and shavings. Plastic or paper cups are also popular.

If you want to re-use the mould, we strongly recommend that you wax it before pouring. We use “silicone release wax” which we get from the place that sells the resin and catalyst. Baking fat will work as well.



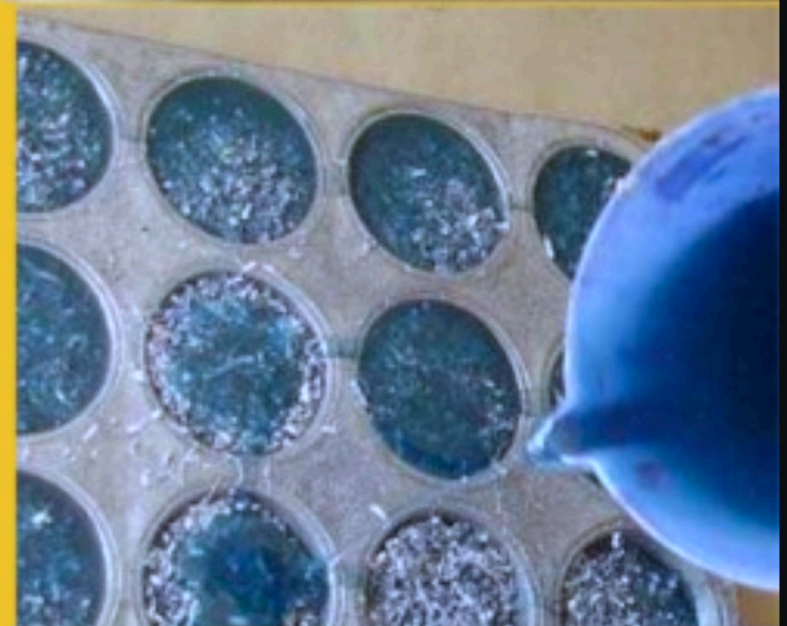
ORGONISE AFRICA
PLANETARY ORGONE HEALING

12. Start pouring and continue until the muffin pan is filled to the rim

Since the resin takes a while to sink in you will have to pour in several passes. It is always good to have a few more objects prepared on the side that can take any surplus resin in case you have miscalculated the quantity.

You have (depending on the make of the resin and room temperature etc.) 15-25 minutes to do this. That is normally not a problem. If you feel that the resin is becoming jelly-like before you are finished, quickly mix the remaining resin with metal filings to make at least some kind of usable [orgonite](#) .

Keeping your bucket and jugs clean helps to avoid premature gelling.

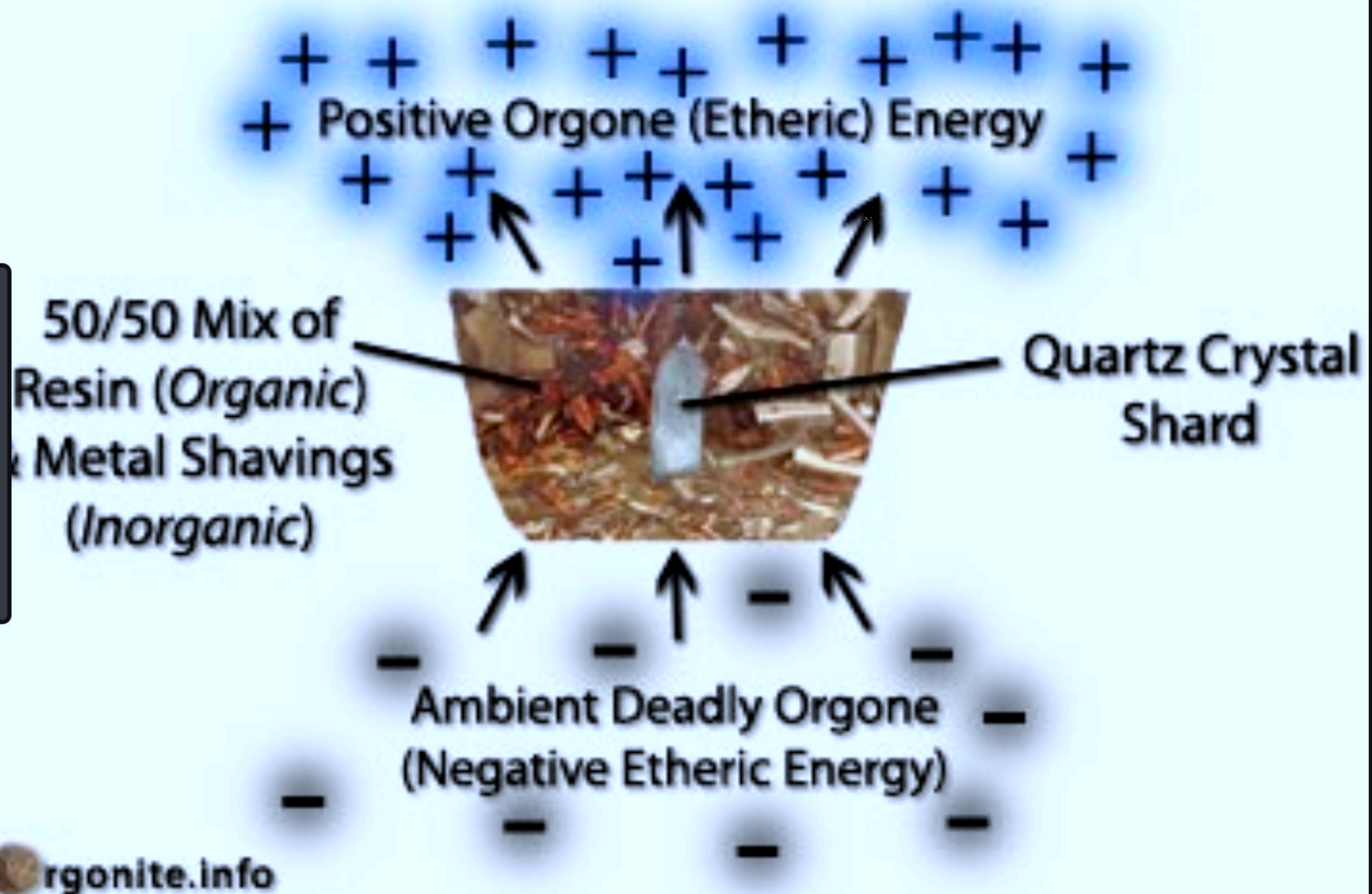


ORGONISE AFRICA
PLANETARY ORGONE HEALING



Basic Orgonite

Cutaway Side View





Orgonite - How To Make And Build Your Own Orgone Energy Devices "Tower Busters"









00-05-07





DOUBLE TERMINATED CRYSTALS































TAPE OVER THE TOP OF THE PIPES TO AVOID METAL SHAVINGS FALLING IN



















300kg 90cm Semi-Polished Elestial Smoky
Quartz Point





225kg 80cm Citrinated Quartz Cathedral Point













mountains of southern California









John Titor

Member

Registered: Jan 2001

Posts: 78

Greetings. I am a time traveler from the year 2036. I am on my way home after getting an IBM 5100 computer system from the year 1975.

My "time" machine is a stationary mass, temporal displacement unit manufactured by General Electric. The unit is powered by two, top-spin, dual-positive singularities that produce a standard, off-set Tipler sinusoid.

I will be happy to post pictures of the unit.

Fig. 9: Photo of the unit in the car (Corvette). The device appears to have been moved to the passenger's side. If it weighs 500 pounds as John said, moving it would be some feat.

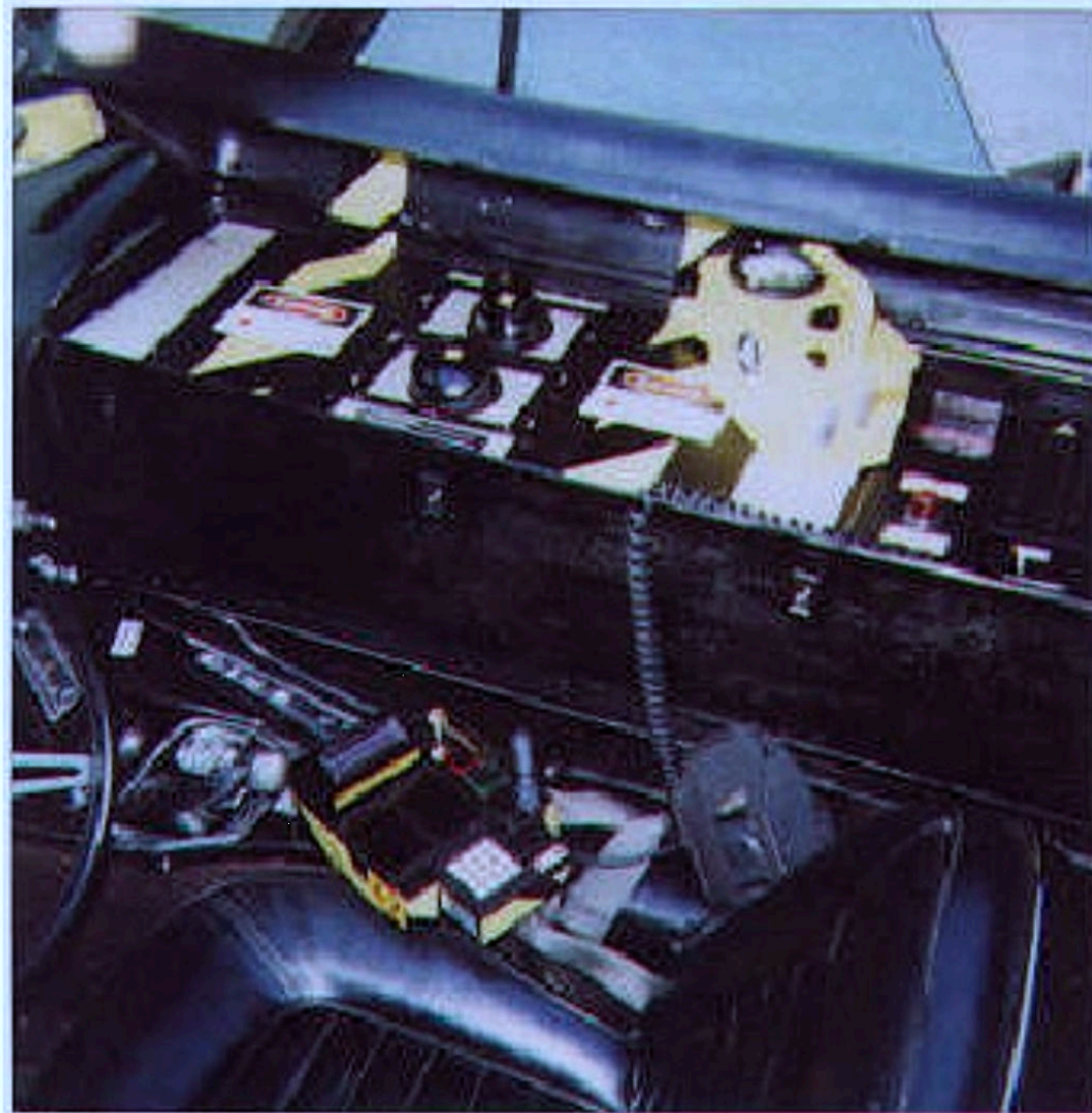




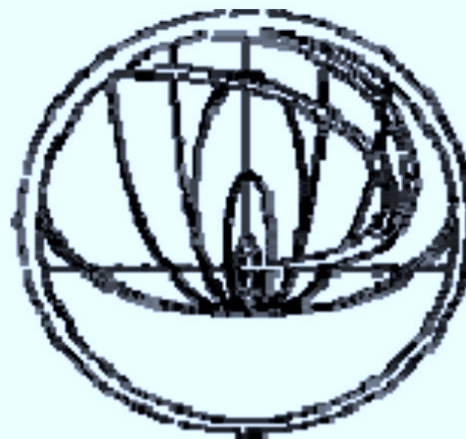
Fig. 12: A second photo of the unit in the truck. Paint colors match, the padded cushion in the foreground appears to be the same as in Fig. 11, and there is the same white box to the left of the unit in both photos.



Fig. 13: Third photo of the unit in the truck. The several objects in the foreground appear to have not been moved, but the light is different as if this photo were taken at a different time of day than Fig 12. There is a red glow reflecting off the instruction label which could possibly be an indicator lamp. Could the unit be turned on? Possibly it's in some kind of testing or maintenance mode or maybe it's reflecting light from outside the vehicle. The glow appears to be coming from a button labelled 'emergency disconnect' (#5) in Fig. 6. But it could also be coming from the 'emergency view screen' (#4) shown in Fig. 6 if that is perhaps a red LED display.



Fig. 14: John's unit insignia. Supposedly the design is based on the field patterns of the time distortion device, reminiscent of Figs 3 and 4 above. It's probably unwise to try to infer too much from it since it's just a logo design.



PREDICTIONS:

1. Primary interest and concern surrounds Mr. Titor's prediction of a global nuclear war in 2015 that will destroy most of the major cities in the United States and many around the world, kill a large fraction of the world's population, and leave the environment contaminated with massive amounts of long-lived radionuclides. By 2036 when civilization has begun to regroup, we of today will be known as the generation that had it all, but threw it away.
2. Microsingularities (mini black holes) will be created soon at a particle collider, and physicists will eventually learn how to build time machines using two of them at a time. It is already expected by some physicists that particle energies will be high enough to create microsingularities at CERN's Large Hadron Collider when it begins operation in 2007, but Mr. Titor did not say exactly where and when they would be discovered. The Titor-specific part of this prediction is that microsingularities can and will be used to build time-travel machines.
3. The multiple worlds theory is true, and there

himself here. He mentioned some small divergences he's noticed, such as books not written and sports events won by other teams, which he says is normal for divergence of a few percent, and that some divergence is inevitable (he can never return to the exact same worldline he left in 2036, but he can come very close).

4. Creutzfeldt-Jakob Disease (CJD) will be epidemic by 2036 and it is spread by eating the meat of animals infected with related diseases such as BSE (bovine spongiform encephalopathy, better known as Mad Cow Disease). CJD is a horrible and fatal brain-deteriorating disease for which there is no treatment or cure, presently believed to be caused by a prion (an abnormal isoform of a host-encoded protein, with no RNA or DNA). Mr. Titor expressed astonishment that people are so careless about the food they routinely ingest; apparently CJD has a latent period of 10 to 30 years, which means (if Mr. Titor was not a fraud) that many people are probably unwittingly contracting the disease today who will become victims of the CJD epidemic. We're ignorant meat eaters.

It would seem then that another time traveller that looks like you could arrive on your worldline of origin with another IBM computer and no one would know the difference.

Bingo!! Seems like something they would do a lot of psychological testing for before they sent us off.

Posted by John Titor in the year 2001

One single universe existed before the Big Bang.

This “single quantum state” universe was fully isotropic in its constitution, and it was point like shaped.

Had it existed, for argument sake, a pair of two distinguishable points within it, it would not have been totally isotropic.

After it exploded into a proper universe, an unlimited multiverse matrix was generated.

This starting event is called Big Bang.

Actually, every single possible quantum state universe is happening within a broad multiverse matrix (see image 1).

On universe worldlines, time normally flows from past to future.

Different choices allow people on Earth to move between different worldlines, always in accordance with the “past to future” standard rule.

Time loop travels or shortcuts from present to past or from present to future can also be attained within special conditions.

HOW A TIME MACHINE WORKS

Manipulation of time, or time travel between worldlines can be achieved by manipulating spin and mass of microsingularities, point like black holes whose mass is in the range of just few tens of Kilos.

The traveler and the cockpit with the time machine and microsingularities are displaced along together during the time trip.

This conveniently allows the traveler to reuse that same machine when he needs to go back to his original starting time and world.

When timetraveling, say from A0 (here and now), to the past B, nobody can ever end into exactly his past of origin B0 (the past as it could possibly be recalled from somebody in A0), but eventually to one pretty close, similar, almost undistinguishable from it, called past B1, depending on the accuracy of the time traveling device.

If the divergence is too high, the traveller will reach past BN, which is the denomination of a far away worldline, where the world does not look similar at all to what could be recalled from A0.

THE ART OF WORLDLINE EXPLORATION

After the testing of timetravel devices reached the safety criteria to host human survival into the cockpit, some missions were proposed to gather information and items from near past.

The first "human safe" machine developped was the C202 (clock type Caesium, 20 gravitometers, 2 main clocks).

It only had a break away time of only +/- 15 YRS, so the missions accomplishable were very limited "in time". The technology yet was progressing and promising, and the TORAH Foundation started to propose and study feasibility for missions not just limited to physic experiments, but to achieve practical solutions into a post nuclear world.

The first group of timetravelers were 5 scientist, they repeatedly used the C202 unit to map WWII events from 2013 and 2016.

These pioneers used the C202 unit to only map historical events of the near past and future, and to check for consistencies or divergences from the original worldline A0.

Huge amount of data was collected by these forerunners, breaking new grounds in physic and technology.

Most of all, these machines resulted very useful to recover tools and items lost after the war, and they are still of much use in this sense nowadays.

All books about timetravel are still using the original nomenclature to map worldlines:

A0 is for here (this worldline, 0) and now (this day, this hour, A), where the mission control exists and where the time trip begins.

B0 is the past (or C0 the future), as it can possibly (or will possibly) be recalled from an observer (mission control) in A0.

This target point B0 (or C0) can never be theoretically or practically reached in a time travel trip without sweeping away most of know physic.

B1 is the actual "drop off" worldline reached by the traveller in the past (or C1 when in the future).

B0 and B1 are ideally very similar (close), in order for the traveller to operate in a consistent and familiar worldline environment.

BN (or CN when in the future) is a very divergent worldline. It is too distant and different from B0 to allow for a traveler to orienter and accomplish any mission.

When using a time machine as a ship for space exploration purposes, the trip vector is no more described by just two characters such as A0.

A third parameter (location) is added.

A space trip usually looks like "from A0 (EARTH) to C1(MOON)". This means that a ship displaces itself from here and now on the Earth and reappears in a close, consistent future C1, but on the Moon surface.

The C204 unit was the second a time displacement machine developed soon after the C202 experiments.

It is broadly used as a time, (not space) machine, and allows trips up to +/- 60 years (break away time).

This parameter is very important. After this time distance, the traveler is likely to drop off into a worldline BN (or CN), too different to live and move into.

A prototype C206 and C406 time displacement unit, with active time compensation, has a theoretical break away time of 193 YRS but it hasn't been fully tested and approved as human safe yet.

MISSIONS TO PAST AND TO FUTURE

A typical trip to the past consists of the following phases (see also image 2):

1) The traveler chooses a safe place to start the trip, it has to be a place gravitationally stable such as caves or abandoned mines, places where the gravitational background was not influenced by human activities in recent past (construction sites for buildings or dams influence a lot the gravitational background of an area when compared to the accuracy of the VGL).

2) When the place and time are set (A0), the time machine can start the trip in VGL track.

The VGL (Variable Gravity Lock), takes a snapshot of the gravitational environment around the machine when the trip starts, and it conditions the microsingularities, so that the time machine and the traveler are always on the same "spot of Earth".

Without the VGL tracking for the Earth all the time, the machine along with the traveler will be soon displaced in the middle of empty space, as the Earth and the Sun rotate away from the traveler, which would be standing still on that same spot of universe.

The accuracy of the VGL depends on the accuracy and quantity of the caesium clocks and gravimeters monitoring the environment around the machine.

A quantic computer monitors the data from the instruments and continuously recalculate and redirect the direction and spinning of the singularities through the electron injection manifold.

The time speed is another interesting parameter, the C204 unit at max power runs at 10 years/hour (10 years outer space displacement every hour experienced inside the time machine).

A great deal of X and Gamma rays are also generated and must be vented away from the cockpit.

The traveler eventually experiences a 2 G force pushing him on the seat when travelling at full speed (10 YR/HR on a C204).

The secondary microsingularity is used to stabilize gravity inside the cockpit, and also to deflect the X rays generated by the primary microsingularity.

3) When the arrival time is reached in the past (or in the future), the machine stops the spinning of the microsingularities. The traveler along with the time machine is "dropped off" into the arrival worldline B1.

4) The traveler lives and interacts into the arrival worldline B1, and as a consequence the worldline starts to diverge into something different, B2.

The history of the drop off worldline B1 has been changed forever into a new B2 path, just because a newcomer time guest has dropped in and is changing things around.

5) When the mission into B1-B2 is accomplished, the traveler will have to revert back to his origin (A0) where mission control is awaiting for him to come back.

He will first have to travel back in time to his arrival point, from B2 back to B1.

Again, he will necessarily miss that exact spot B1 as the induced divergence will drop him off into B3 instead.

to B2) usually last weeks or days, whilst the break time of the machine is in the range of decades.

6) From B3, the traveller can finally go back to A0 by simply backtracking the travel parameters recorded during the original trip from A0 to B1.

The VGL does not need to track the presence of the Earth during this last trip, it will just happens, if the trip A0-B1 was right in the first place, that the Earth will be exactly where it is supposed to be, at the drop off point A3.

When backtrack to A0 ends, the traveler will appear into worldline A3, consistent to the origin A0 as much as B1 was consistent to B3.

If there is the suspect that the divergence between A3 and A0 is not negligible, the traveller can stall the time machine to chase a better VGL match (lower divergence), before dropping off into A3.

A time machine is stalling when its time displacement is equal to zero, which means that it continuously drop back one time cycle and then drop forward the next, so to keep the traveller outside any particular worldline as long as it is requested, without any time relative displacement.

From an operator awaiting the time traveler in mission control A0, it will look like the time machine disappeared and then reappeared into the same spot after a split second.

The traveler inside the time machine will have aged for all the period of the mission time, usually weeks or days from B1 to B2, plus the travel period (usually no more than a few hours).

The total mission time has been from A0 to B1 (back to past in VGL track)), then from B1 to B2 (normal flow of time required for the mission), then back in time again from B2 to B3 (back to past in VGL track), then from B3 to A3 (in back track mode of a recorded spacetime path), and eventually from A3 to A1 (stall mode, if required).

Some beginners may be tempted to move direct to A1 by simply moving forward from B2 up to A2 (VGL shall then be turned on, to chase for the Earth during the fast forward trip).

Unfortunately, this will not bring the traveler back to A1, and probably not even close to that (A3), but will move the traveler forward to AN, the future of B2.

AN will have a considerable divergence from A0 which is the sum of the divergences between A0 to B1 (time machine accuracy dependent), plus the divergence from B2 to AN (time machine accuracy dependent), plus the induced divergence factor B1-B2.

This last parameter is the most unpredictable of the lot, it increase the longer the traveler lives into B1, and the more interactions he has during his staying.

It is worth to clarify that when time traveling it is only important the starting point A0, and the final arrival point A1, no matter how you move between them.

Usually, the probability of reaching A1 by fast forwarding B2 is not null, but typically very low, and it is thus far better (although more "time" consuming) to move backward, one step at a time, from B2 to B3 and finally into A1.

DIVERGENCY BETWEEN WORLDLINE FOR DUMMIES

So far, the divergence between worldlines is simply measured by the VGL as the gravitational divergence between departure (A0) and arrival (B1).

A traveller could then stall the machine at the arrival A3 and let the VGL scroll through worldlines to decrease the gravitational divergence and ideally have a perfect match with A0.

However, divergence between worldlines is not just a matter of gravitational similarity, but it is an intrinsic, constant parameter that forcefully occurs every single time the traveller is displaced by gravitational fields, and a traveller usually displaces billions of times before reaching the final drop off destination.

Stalling the machine for too long will decrease the VGL divergence, but increase the number of displacement cycles, so overall worldline divergences in terms of social and historical discrepancies shall increase.

THE PROPHET SYNDROME.

It is important to remember that divergences between worldline groupings also occur on Earth at standard gravity conditions, as people live and choose what to do and how to live their life, thus generating new worldline patterns almost every fraction of second, usually in accordance to chaotic attractors.

Groups of similar worldlines can look almost identical to each other at a given time, then they may swiftly diverge from each other to very different conditions and stories, only to converge close together again a few days or years after.

Every possible choice into every possible universe is being experienced and chosen within the multiverse matrix.

From a social point of view, it is up to the consciousness of each person to decide and "grab" the worldline where to live and be.

It has been proved in many experimental missions that new social pattern attractors can be seeded into worldlines thus causing them to split up to new, unpredictable futures. This phenomenon is also called the prophet syndrome, and it is believed to have played main role in key points of the human history and in the creation of religions.

A good prophet can see the near future events.

If he is good enough, he will scream the truth, thus obliging the people around him to take action and avoid the mayhem. As a consequence his prediction will not become true, and a new historical pattern has been created.

If the prophet behaves instead as a silent watcher, then his forecasts may well become true, in accordance to what he saw but did not tell.

WHO TRAVELS AND WHO STAYS HOME

It was proved with the experience, that a good timetraveler is rarely a good scientist.

During a mission the main qualities are adaptability, social and interpersonal skills and improvisation.

Every cadet needs to withstand a series of training trips with his tutor.

These procedures are made to let timetravelers familiarize into different social periods and contexts, and they are also taught the basics to approach and meet timeparents and timefriends, having resulted impractical to make travelers wander on different worldlines without relying on any support from friends or parents.

Also a standard practice is to send travellers with fake names and generalities, especially when information is seeded as secondary mission parameter.

The standardization of traveler names is not just a curiosity but is also a useful "signature" tool for historical seekability of travellers and secondary parameters checked by mission control.

After every mission, the traveler is entitled a period of pause into the home worldline to prepare for the next mission and recover from the time jet lag.

It is not good for a traveler to see too many places and times too often, as this may cause severe alienation and psychological side effects due to the ever changing places and histories he lives into.

Travelers must always withstand special psychological and ethic training.

Rarely a traveler fit for the future is also skilled for missions to the past and vice versa.

LOOPING INFORMATION FROM PAST TO FUTURE

Another interesting secondary mission parameter is the information looping or also "seeding" of information or artifacts into a mission worldline.

There are two main techniques (please see image 3):

The first type consists of the physical burial of an artefact in a named area, to be recovered from mission control in the future (see worldline B1-B21 that develops into AN-1 very close to A0).

A second technique consists of a timetraveler to reveal himself in public, or to drop future history books into the past.

It is important for the traveler to have as much impact as possible in order to change future events into the worldline he is acting, so that it shall dramatically diverge (B1 to B22 to AN-2).

In this case, the divergence of the worldline will be so high that mission control A0 will stand no chance to historically track the traveler into the past worldline.

The consequences of divergences induced into a worldline, will only be observable to the time traveler himself, in the case he decides to move to the future of B22, namely AN-2, to take a look to the consequences of his actions.

PATENT SYSTEM DOES NOT WORK IN AN OPEN TIME SOCIETY

Another type of trip is going to the future (see image 4). This kind of missions is mainly used to gather information about future events and technology breakthrough.

Despite this technique may appear very promising in terms of research and development, it proves not as convenient as it appears.

First point of concern is the tool lack.

Even if you have the theoretical knowledge on how to do technology, you may still miss the basic tools to practically develop the technology itself, and these tools may still require decades to be developed and built.

For instance, theoretic physics had knowledge of time machines was known since the year 2000, however, these will not be built until conditioned, naked singularities are created and magnetically bottled for use.

The development of "tools" (such as the LHC) will still require decades.

On the other side, the possibility of "importing" technology or tools from the future is still considered ethically unsound and dangerous.

What if Hitler had had the hint about the N bomb at the beginning of WWII?

What would we do if we where to smuggle too advanced (or too dangerous)

technology, without any time to think about its implications and effects?

History and nature have taught that evolution is very conservative, and leaps to unknown fast forward tend to be doomed with failure.

MESSAGES FROM THE FUTURE

Interesting field of research is about the possibility of establishing a future to past information stream, in a sort of "The newspaper of the day after" experiments.

This communication channel from the future to past can have a number of applications, such as avoiding accidents before they occur.

Even if this is practically feasible this information loop will not change a thing for the worldline sending the MAYDAY from the future, but will possibly improve things into a similar but different, "grateful" worldline, which receives the alarm.

The ethical and physical implications of such kind of application, although possible, are still under evaluation.

0 - 1967 Chevrolet enclosure.

1 - Double magnetic housing units for dual microsingularity architecture.

2 - Double electron injection manifold.

3 - X-ray venting system embedded on secondary singularity

4 - Gravimeter set, 20 off.

5 - 4 Caesium clock units

6 - Quantic type 2KB CPU.

7 - 60 years break away time.

The C204 unit is a very flexible time displacement machine.

Working principle is that large gravitational fields alterate time flow rate for any item or observer close enough to the source.

Working principles are detailed as follow:

LARGE GRAVITY = STATIC BLACK HOLE

Static black holes as the ones observed by astronomers do generate powerful gravitational fields.

The edge of a black hole is called "event horizon", underneath this spherical surface, the gravity pull is so strong that not even light can escape it.

There is the impression that no "events" such as light signals are happening inside the black hole.

On an hypothetical experiment, one starship approaches the event horizon or edge of the black hole (observer A), a second one will watch the first from a safe distance (observer B). See also image 5A for reference.

The far away starship B will then see his companion A always approaching the black hole, but it also notices that it continuously slow down, so that A is never able to get to the event horizon.

B would notice the starship A time signal run slower and slower until it technically stops as A almost touch (but never quite reach) the event horizon surface.

On the other side, the captain inside A moving toward the black hole will notice none of this effects and will see his time signal running just fine.

When he looks back to the universe and to starship B, he will notice that the rest of the universe is moving at a much faster rate than normal.

He will then enter the black hole, and go deeper down inside the event horizon (despite is companion B will never confirm this happening).

Once in, he will see the rest of universe moving so fast into the future, at the rate of billions of years per milli second, that he will be watching the end of the Universe and time itself.

Although this idea is possible and fascinating, a trip into a static black hole is a one way ticket to death, even if from a very intriguing point of view.

The force of gravity will inevitably crush and annihilate anything inside it within billionth of seconds into a spaghetti pudding of quanta, so no posh pictures from the end of times will ever be posted back to B.

The divergence of point of view between the observer in B and in A is a classical worldline shear effect, where B stays on a still, plain worldline, and his friend in A grabs a gravitational loophole which throws him into a very distant and divergent worldline to the end of time and... life!

ROTATING BLACK HOLE = DONUT-SHAPED SINGULARITY

Fortunately, most black holes are not static but they spin.

Spinning black holes are often referred to as Kerr black holes.

A Kerr black hole has two interesting properties.

ONE, they have two event horizons (inner and outer surfaces) and TWO, the event horizon is not a sphere, it looks more like a donut.

These odd properties also have a pronounced affect on the black hole's gravity.

There are vectors where you can approach the singularity without being crushed by gravity (see image 5B).

Another more interesting result of passing through a donut singularity is that you travel through time by passing into another universe or worldline. Please see also Penrose diagrams for Kerr Black holes or you can examine the calculations of Frank Tipler.

A PONDERING HAWKING = MICROSINGULARITY

Steven Hawking proposed the existence of microsingularities that were created in the big bang. They were probably about the size of a proton and disappeared over the years due to an effect of radiation evaporation.

Despite their name, black holes do radiate some energy back to the outer universe, and emit light just outside the event horizon barrier.

The more massive a black hole is, the lower the frequency radiation is, and if you consider that the universe background emission temperature is 2.7 K, most of the observed black holes are eating more light from the universe background radiation, than the light they are evaporating away (image 6A).

Of course, the issue reverts when a black hole is very slim (image 6B).

In this case, he will evaporate more radiation away to the outer universe, than what he receives in from the background radiation, so it is shining off at expenses of his own internal mass.

The light emitted has a very high frequency (Gamma ray and above), and it gets even worse as the black hole slims down its mass to close to zero values.

The light emitted from a black hole is called Hawking radiation.

Usually the microsingularity completely evaporates away its mass in a very energetic burst of Hawking radiation.

Very small black holes as the one used onto the C204 unit have radius of fraction of the electron size, their mass is about 67 Kg each, their Hawking emission, when on duty, is very intense.

They are called microsingularities.

When the CERN brought its biggest machine on line and started to smash very fast and high-energy particles together, one of the odder and potentially dangerous items produced from this increase in energy were microsingularities a fraction of the size of an electron.

Through trial and error, and although they are quite heavy, hot and capable of putting out a great deal of X radiation, it was discovered that these microsingularities can be electrified and captured into magnetic bottles, and then definitively stored as "naked", stable microsingularities, to be reused for many other applications, such as time machines.

A naked microsingularity is stable in mass, and only emits radiation when it is excited, electrified or spinned during experiments.

To achieve this stable status, microsingularities are bounded in pairs, where the Hawking radiation emitted by one, is immediately captured by the second and so on, in a stable and continuous energy and radiation loop.

ARTIFICIAL MICROSINGULARITY = LOCALIZED KERR FIELD = SAFE TIME TRAVEL

At this point, also electrified singularities have two event horizons. By spinning these various microsingularities, a localized Kerr field is created.

By using two microsingularities in close proximity to each other, it is possible to create, manipulate and alter the Kerr fields to create a Tipler gravity sinusoid.

This field can be adjusted, rotated and moved in order to simulate the movement of mass through a donut-shaped singularity and into an alternate worldline.

Thus, safe time travel is achieved (image 7).

The mass and gravitational field of a microsingularity is manipulated by "injecting" electrons onto its surface just at the right angles and directions.

By rotating two electric microsingularities at high speed, it is possible to create and modify a local gravity sinusoid that replicates the affects of a Kerr black hole.

Actually, there are 2 singularities in the C204 unit. The gravity field is manipulated by three factors that affect it in distinct ways:

A - Adding electric charge to the singularities increases the diameter of the inner event horizons.

B - Adding mass to the singularities increases the area of gravitational influence around the singularities.

C - Rotating and positioning the polar axis of the singularities affects and alters the gravity sinusoid "orientation" against the rest of universe.

This last parameter is monitored and controlled keep the time machine and the traveler with the "feet on the Earth".

In the current C204 device, the traveler stay still, but the donut black hole turns and keep approaching the traveler in cycles.

At each cycle, the traveler goes back of a certain amount of time.

The higher the rotating frequency, the greater the speed of time displacement.

See also image 7 for further reference.

It is important to clarify that the size of the donut shaped singularity that can be achieved nowadays is eventually too small, for the time machine to pass trough. The approach to the donut centre is simulated back and forth, but never passed trough.

A passage inside it will surely crush the traveler and the machine.

The second black hole in image 7 is controlled and is spinning as well to emit synchronous gravitational tidal waves.

These forces and gravity fields overlap and compensate each other in order to give the impression for a traveler to approach the main black hole, without being crushed by it.

Secondary gravitational tidal waves are also used in order to deflect and vent away the X and Gamma ray generated by the manipulated black holes.

THE VGL DEVICE

When time travel was invented prototypes were built to go back in time for a split second and then return.

They had sensors and cameras on them, and most important thing... They never returned home!

It was later discovered that the machines were ending up about 15 miles away and 3000 feet in the air.

Unfortunately, the Earth and Solar System could not help themselves from rotating away during that split second...

This was a mayor problem that was later resolved by the invention of the VGL (Virtual Gravity Lock).

When traveling to other worldlines a system of gravity sensors in the cockpit machine takes a snapshot of the starting point gravitational environment.

This parameter is constantly monitored during the time trip, so that the traveler moves constantly between worldliness with a consistent "gravitational environment" before dropping out to the arrival destination (image 8).

The injection manifold does most of the hard job by conditioning the axis orientation of the microsingularities, and thus keeps chasing the Earth surface as it tries to rotate away.

The travel parameter and axis orientation are constantly recalculated and recorded for future reuse or when backtracking to home A0.

If a cement block was to appear into exactly the spot where the traveler is supposed to be, the reading of the gravitational environment would diverge too much, and the injection manifold would invert the trip back using the "flight data" stored so far.

The time machine would "backtrack" the traveler to the latest point of congruity with the original gravity snapshot.

A great deal of time and effort goes into picking just the right spot since you cannot physically move during a time displacement. You must make sure a dam or a skyscraper will not be built (or was not built) around, because this will "pollute" the gravitational arrival point background from the expected one

sampled at the beginning of the trip.

The VGL is thus very useful to keep the “feet on the Earth” when timetraveling, however, this alone will not be enough when the time travel stretches to destinations more than a couple of hour distant in time.

Unfortunately, as the time travel length stretched more and more, the prototypes correctly re appeared back on the right spot, only to instantaneously crush on the ground or fly up in the air at pretty dangerous energies.

This problem is caused by gravitational tidal force at the arrival drop off point.

VGL only seeks to minimize the divergence of the Earth gravity, but cannot do anything to compensate the relevant gravitational divergence induced by the movement of the rest of the planets on the Solar System.

Even if the time machine drops out on the right spot of Earth, it would be immediately hit by a sudden gravitational force due to the divergence of positions of the other planets around (see image 9).

The tidal wave only last a second, when dropping off, but this will be enough to slam the machine into pieces.

In the best conditions, it will push the machine down on the ground.

At worse, it will push the machine up in the air.

In between the two, any possible slam direction will statistically occur and cause great damage to the machine and to the mission control laboratory A0.

This issue limits the arrival and departure dates that can be chosen when travelling on time.

Not only the VGL must seek for the Earth, but the arrival point must be “astrologically” consistent to the starting point, in order to minimize gravitational tidal waves at the arrival.

Correct time windows for departure and arrival shall be chosen carefully, prior to each time travel mission.

For instance, a 28 day trip to future may result into consistent arrival position of moon and sun (considering negligible the influence of other planet movements).

A 28,5 day will result in an inconsistent planet position layout (Sun and Moon

gravity is completely opposite at the arrival) , and thus a very different gravity layout will attend the traveler when dropping off.

MONITORING THE VGL ENVIRONMENT

A typical VGL graph generated during a trip is also sketched in image 10.

As the trip starts, gravity divergence are minimized, thus keeping the traveller on Earth, however, divergence will increase as much as DG1 because of gravitational influences from other planets of the Solar System.

The traveller cannot drop off when in DG1 because of the gravitational tidal waves awaiting at the drop off point.

As the trip moves on, divergence minimizes back to acceptable level DG2. The planets have aligned back to a congruent configuration. The traveler can safely drop off here, or continuing his trip to more distant times.

If the traveller moves even further down the line of time, it may happen that a sudden DG3 peak reading is detected by the VGL.

The divergence appears very similar in value to DG1, but the change has occurred too swiftly.

This suggests that a "clashing" is occurring (say somebody has placed a block of concrete within the expected drop off destination).

The traveller cannot drop off in this awkward position, the electron injection manifold is inverted using the recorded travel parameters so to safely backtrack the traveller into a consistent gravitational spot (for instance DG2 safe drop off window).

BEWARE OF THE MICROSINGULARITIES.

Magnetic fields are used to store the microsingularities in a safe vacuum space.

If the magnetic system failed (which has numerous back ups including a system that would remove it from this worldline), the singularity would evaporate into a burst of Hawking radiation as soon as it hits against any massive object.

As a matter of fact, the radius of the microsingularity is too small to efficiently eat

...if all these assumptions are satisfied, then efficient, reliable quantum computation of arbitrarily long duration is possible, even with faulty decohering components, because the errors will be corrected faster than they occur, even if the error correction machine itself is faulty.

Quanta, ciphers and computers - The New Physic

Since timetravel was invented, there had been obvious applications of this technology for the space exploration.

Nowadays there are two main approaches to travel in space by means of time/space displacement machines, the VGL and the "free dive" approach.

VGL MODE SPACE TRAVEL

The first method requires the VGL system to be reprogrammed not to chase for the Earth surface (minimize gravitational divergence from original starting point), but to chase for a calculated gravitational path between the Earth starting point and, for instance, the Moon landing point.

This gravitational path calculated is the black line, and it is set as a VGL parameter before the trip starts (image 11 A).

The blue line represents the error of the calculated path compared to the real (unknown) one.

Gravitational path between Earth and Moon is dependent by a huge number of planet positions, velocities and other secondary parameters that cannot be all precisely accounted when calculating the VGL path.

In this kind of trips, the time machine works in a zero time displacement mode.

The time machine is "stalling", which means that it continuously displaces time

one cycle back and then one cycle forward, so the total time difference at the drop off point will be null.

The space ship is supposed to reappear on the Moon in the same instant it lefts the Earth.

ERRORS ON THE VGL PATH CALCULATION

The main limit of this technology is the error in the calculations of the gravitational path between the Earth and the Moon (integral area between blue and black gravitational path lines).

As the spaceship travels onto the calculated path, the travelers are sidetracked to divergent worldlines (or better saying "Moons") divergent from the ones observed by mission control in A0.

Since a wrong VGL path was inputted, a "wrong" Moon will be reached.

The divergence between departure and arrival worldlines (green dashed line) is so big that the mission control in A0 will not see the travelers reappearing on the Moon, travelers will be literally "lost" in a different Moon, someworld else.

On the other side, the travelers into the space ship shall appear on the surface of "a" Moon as planned, but as they try communicating back with the mission control A0 on the Earth, they will find out that no mission control is expecting any message from any self proclaimed spacetime traveler visiting the Moon at all.

Some earthbound humans on the drop off worldline may even spot the presence of some oddities on the Moon surface, and rush to proclaim to the media evidences of aliens coming from the outer space and peering out of our satellite...

FREE DIVE TO THE MOON

The second method is illustrated into image 11B and was inspired by the very first experiments made with time travel machines.

In this instance, the VGL is deliberately turned off, the space ship starts a stall trip (zero time displacement).

After a few cycles, the machine drops off into empty space, as the Solar System and Earth have moved away.

This "free dive" kind of traveling has much lower divergence than the first technique, and a space machine will only have to stall for just the right amount of time before dropping off in the nearby of the Moon (or other planets, as required), with negligible divergence from the starting point A0 and the mission control.

This means that mission control on Earth will see the spaceship reappearing on the Moon and correctly communicating back with them.

Intermediate drop offs in between the Earth and the Moon shall be done to locally verify correct travel direction vector.

During these checks, orientation of the microsingularities will be amended in order to recalibrate the displacement vector, thus giving the sensation that the spaceship appears and disappears in a sort of zig-zag space path.

This technique is basically an extension of the first method, with the difference that the path is not calculated in a single and very precise shot, it is almost not calculated at all.

The Earth Moon path is approximated into multiple trial and error intermediate small shots, generally aiming toward the Moon direction.

THE DIFFERENCE BETWEEN LANDING AND SMASHING

The limit of the free dive technology is the raw control you have on each drop off step.

The basic step cycle of our standard units (say a C204 one) is no less than one second, which means that, in average, the spaceship can displace with a resolution no lower than 22 miles between each point.

As a matter of fact, the earth and the solar system rototranslate in the universe and galaxy at about 22 miles per second, an higher step frequency, for instance a quarter of second, would allow to displace the unit with a resolution of 5.5 miles from a given starting point.

This raw resolution on the drop off point does not currently allow a ship to safely land on the surface of the moon, as it may appear too high, or too close (if not inside!) the surface of the arrival planet.

Even the incertitude about the drop off relative velocity is a problem, the

spaceship could be slammed down and wreck on the Moon surface at very high energies instead of gently perch on its surface.

THE ART OF STAYING AFLOAT AND GENTLY APPROACHING DISTANT PLANETS

The current state of technology permits safe place in orbit of space ships.

The drop off velocity can be controlled and conditioned within raw limits, secondary adjustments must be done with propellers on the space ship in order to achieve a stable orbit.

Landing on a planet surface by only means of the space displacement black holes is still too unsafe for our current state of technology, but improvements are expected and a great deal of research is currently going on.

The advent of more precise units which operate with fraction of second resolutions will permit a better control of the drop off position and velocity, so to allow for the ships to safely land or even gently float onto a specified position in space, regardless of the VGL coordinates.

Very high frequency prototypes units have been created, they can actually float still on air with only local optical environment recognition (Virtual Optical Recognition), and with negligible worldline divergence.

Unfortunately, the size of this prototype is still very small, and cannot be used for manned missions at this stage.

EXPLORING FAR AWAY WORLDLINES

Another type of worldline exploration is currently done by exploring highly divergent isodate worldlines.

The trips starts into A0 and heads toward a far divergent worldline AN on the Earth.

The trip starts with the VGL on, time is stalled (back and forth) around the same time/date.

The stall time basic cycle could be as low as 1 sec on a C204 unit.

In this trip, however, the basic cycle is set at -5 to +10 minutes back and forth in

time.

As the machine stalls back and forth in time, the gravitational environment in mission control A0 , for instance a cave, is gravitationally polluted, ideally by swiftly removing (or adding) long standing geological masses from within the cave, outside the VGL sensitivity range.

These blocks need to be moved very swiftly after the trip has started (less than the given 5 minutes back step) and need to be restored not earlier than 10 minutes after the traveler has returned back.

As the stall time trip starts, the VGL take a snapshot of a recently polluted gravitational zone. As the machine displaces few minutes backward first, all masses were properly in place and the trip carries on without any big divergence. When the machine heads forward in time, the VGL will spot an abrupt increase of divergence (masses have been displaced by mission control in A0 for the following ten minutes).

The VGL will try to minimize the gravitational divergence and will compensate this by scrolling through worldlines that seems to fit the original "non polluted" gravitational spot.

As the trip moves back to time 0, the VGL will keep scrolling worldlines up and down (see image 12).

If new masses were placed around the machine, the VGL will suddenly perceive a "smaller" cave around the machine, and will try chasing a "bigger" cave in other worldlines, to minimize the gravitational divergence.

If masses were removed from the cave, the VGL will suddenly see a "bigger" cave around it, and it will subsequently scroll up wordlines in order to match the original "small looking" caves.

CONSEQUENCES OF GRAVITATIONAL POLLUTION

The mass displacement caused by mission control in A0 pollutes the gravitational environment in a similar way a wrongly calculated VGL path to the Moon ends up displacing the spaceship to a very divergent worldline Moon.

In both cases, the traveler will be displaced to worldlines different from the starting one.

Backtrack allows the traveler to come back to his origin at any time during the mission.

Missions to far away divergent worldlines are still very rare, they are used to study time machines capabilities for theoretic purposes or worldline mapping.

These missions can rarely have practical purposes such as data or item recovery.

The arrival worldline is too divergent neither to allow for a traveller to orienteer nor to follow a programmed schedule.

JOIS OF QUANTUM COMPUTING.

Each time travel machine needs to evaluate many parameters in order to keep track of where and when to be in timespace.

Data from the gravitometer sensors is computed through the main quantic CPU.

The output controls the injection manifold, which directly modulates the spinning and mass of the microsingularities, thus allowing safe time travel with the feet on Earth.

The main routines that can be handled by the CPU are the VGL lock routine (chasing for the Earth), backtracking a recorded time path, or executing a custom inputted gravity path.

The quantic CPU does not work in GHz but in number of parameters it can handle at the same time.

In the dawn of informatic, CPU crunched processes and calculations down to step by step mathematics, so that the CPU GHz was a direct measure of the time it took to execute a problem in a deterministic process.

The new quantic CPU developed just before the end of WWII calculates the results in just one step calculation.

The problem is simply inputted, no matter how complex it is, and then the CPU throws out the results in one "clock" cycle, or better say one measurement cycle.

The internal Qubits solution from the CPU is "measured" and forced down to a digital bit value, to feed directly into the coil controller of the injection manifold.

The first quantic workable CPU created in the year 2014 could only handle up to 512 qubit at a time, and was developed by the US government, after years of struggle.

The main issue at that time was that, in order to make it work, you need efficient, synthetic algorithms, mainly because the number of parameters it originally could take in was very limited.

The first functioning software developed for quantic computing was about decryption of radio transmissions during the WWII, in a similar way the Bletchley Park scientists and mathematicians in the UK were trying to break the Nazi encrypted communications.

CHALLENGING THE DECOHERING DATA.

The main technological problem with the quantic CPU is the data decoherence through unstable logic gates.

In the old design CPU, every bit of information was a purely digital 1 or 0 value, as a discrete current or magnetic dipole value.

This "bit" undergoes determinate calculations and permutations through standard logic gates, usually miniaturized transistors embedded into a silicon matrix, to produce a mathematical result.

A qubit stores the information as a probabilistic statistical "superposition" of a bit (a qubit), floating between the value 1 and 0, and it is usually stored inside electronic clouds of caged and controlled atoms.

The qubit does not really know whether it is 1 or 0 until it is measured in the end of the process, and is obliged to "make a decision" about what final digital value to be.

Inside the CPU many qugates (quantistic logic gates) can perform various operations on the qubits, in order to progress the process through a the solution.

However the qugates are not 100 % stable and reliable.

Vibrations, temperature gradients, chemical impurities, radiation from external

sources continuously pollute and effect the efficiency of calculation of the CPU. This natural background instability causes the qubit processing to be unstable, and the output usually decoheres (trips) after a few step into the logic qugate chain of calculations. The CPU will simply not work, and if it does, it is by pure chance.

The quest for perfect, non decohering qugates appeared hard to be tackled, from both a theoretical and technical point of view.

Originally it was tough that, pure materials and very controlled process conditions would have stabilized the typical decohering time of the CPU (the higher this parameter, the stabler the qugates, and more reliable the calculation).

In this way, the calculation and measurement had to be performed faster than this specific "environment dependent" decoherence time (usually in the order of milliseconds) to allow for reliable computing.

This approach was however very limited in terms of computing complexity and the costs for controlling the system pretty high.

Scientists then found much simpler ways of "amending" the decoherence of logic gates, using entangled pairs of qubit to be parallel processed inside decohering qugates.

One qubit undergoes the real, valuable, calculation process.

The other one is a test qubit. It is just mirrored into a simple sequence of known qugates, so that its expected final digital output is know beforehand.

At the end of the processing, both quits are measured.

If the test qubit has undergone decoherence and its result is different from what was expected, then it is known that also the brother qubit has decohered, and its measured digital value must be turned into its opposite to make sense.

If the test qubit value matches what is expected, then also the brother qubit measured value is reliable and can be trusted as it was read.

This system literally allows the correction of decohering logic quagates, without the real need of perfect component manufacturing and controlled process conditions. The error of decoherence can literally be amended before it occurs and even if the amending "test" system itself is decohering and faulty.

TRYING EVERY POSSIBLE SOLUTION BEFORE MAKING A CHOICHE.

As already discussed, time and space are moving around the timemachine all the time during the trip, and the VGL must keep track of a small spot of Earth into a huge possibility of universes, times and worldlines, swiftly moving all around.

A quantic CPU is the only way to keep track of the Earth position into these harsh conditions, as it can find the exact spacetime path for Earth by browsing every possible one at the same time, in a single calculation step.

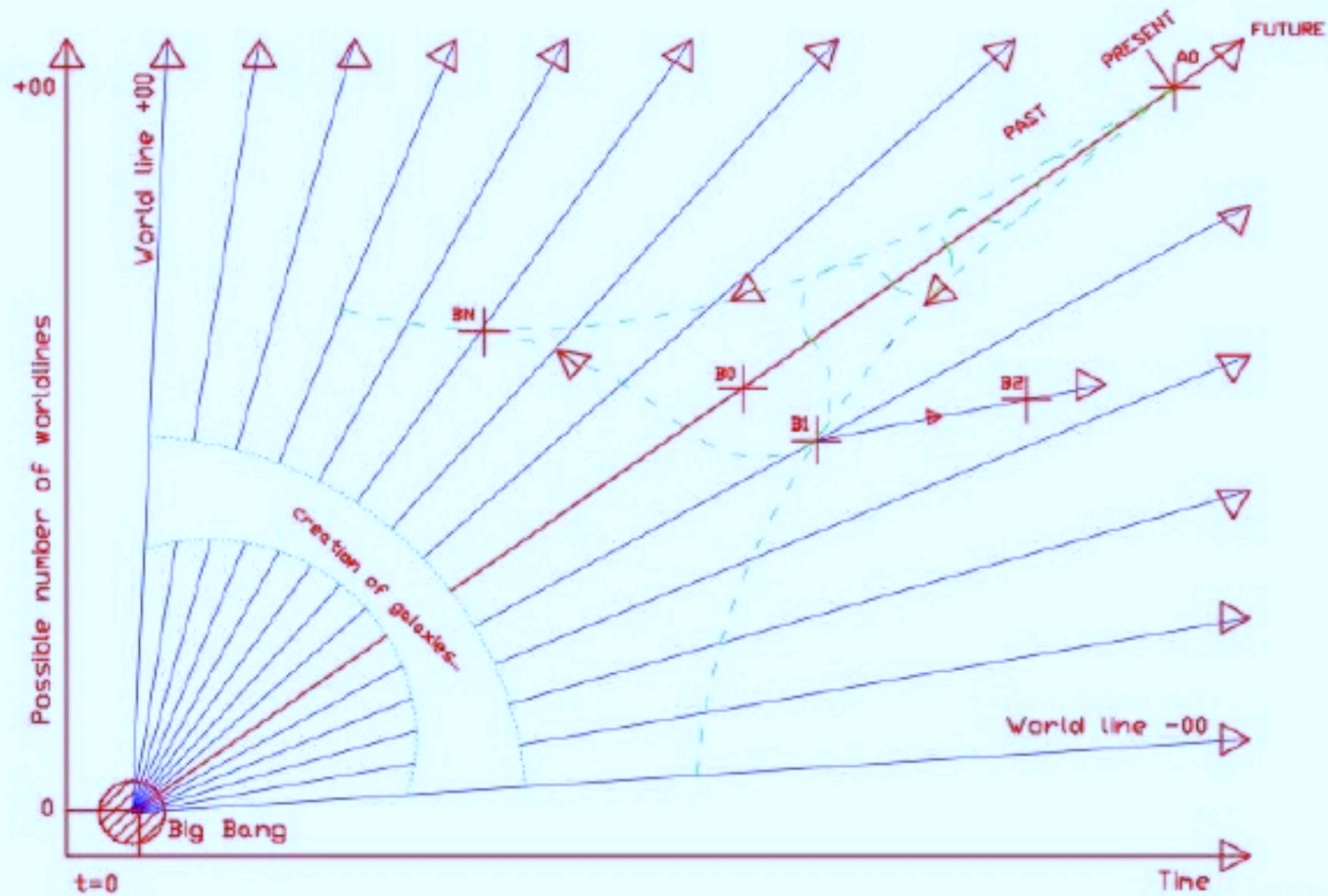


IMAGE 1

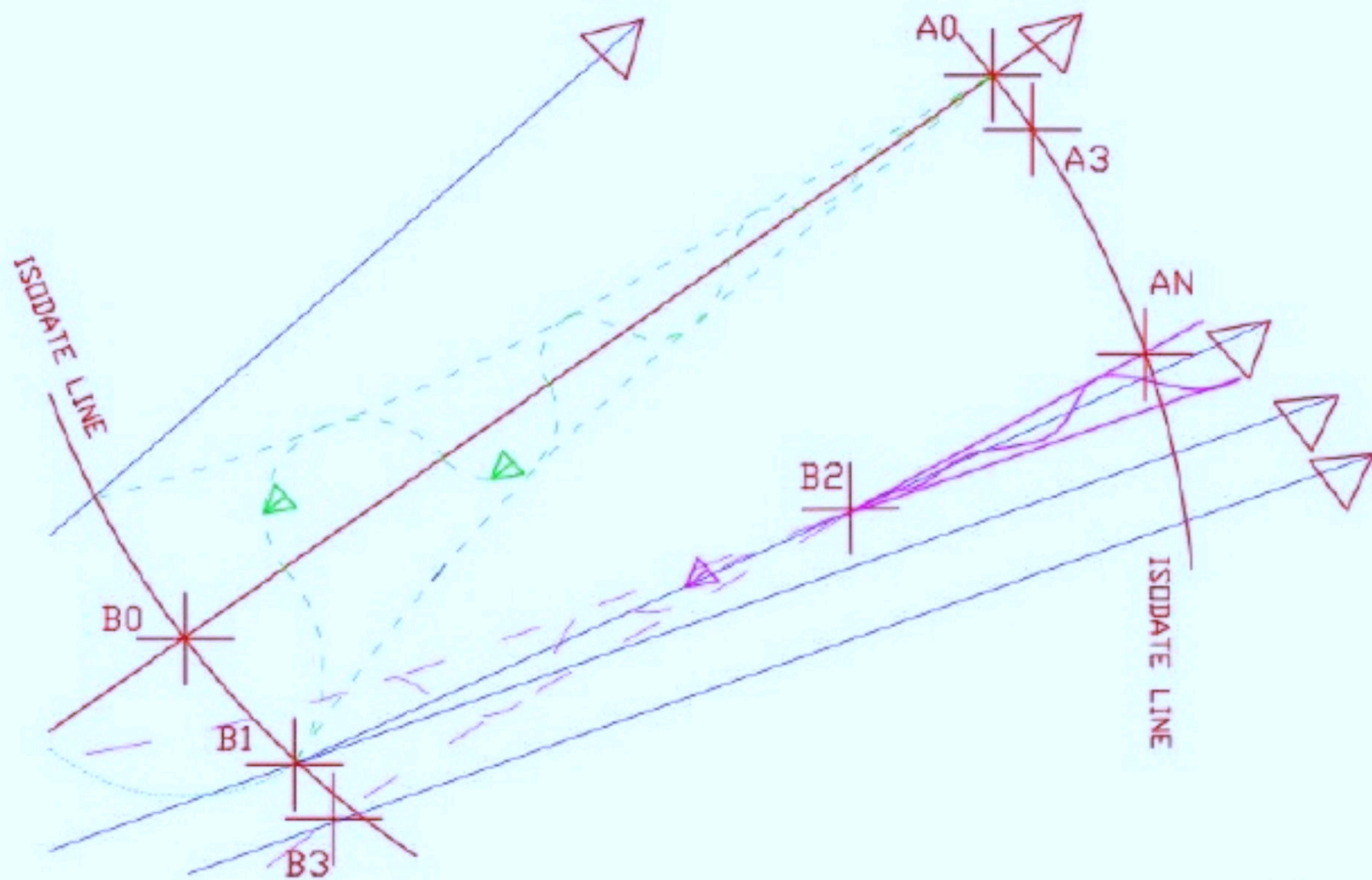


IMAGE 2

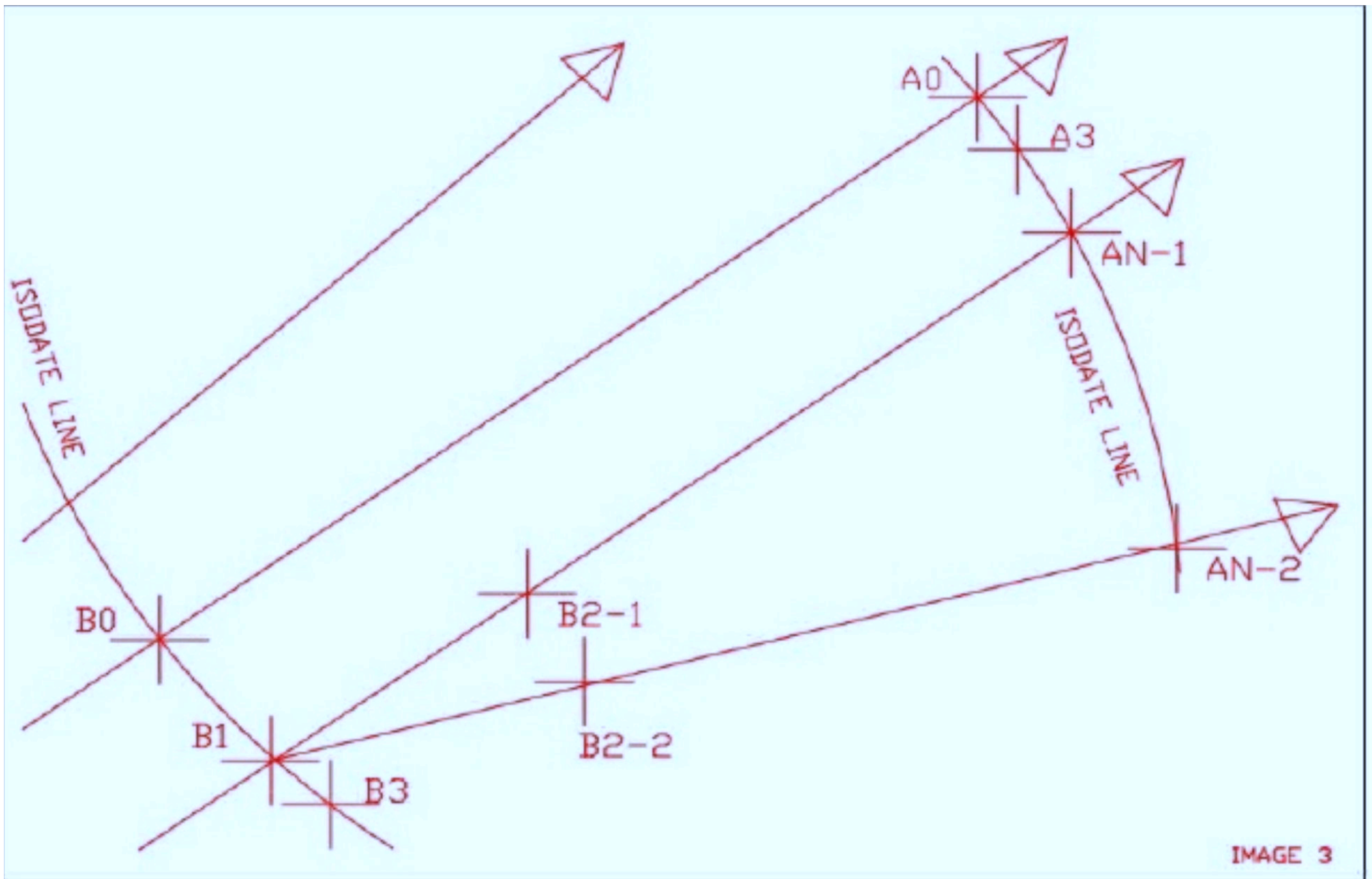


IMAGE 3

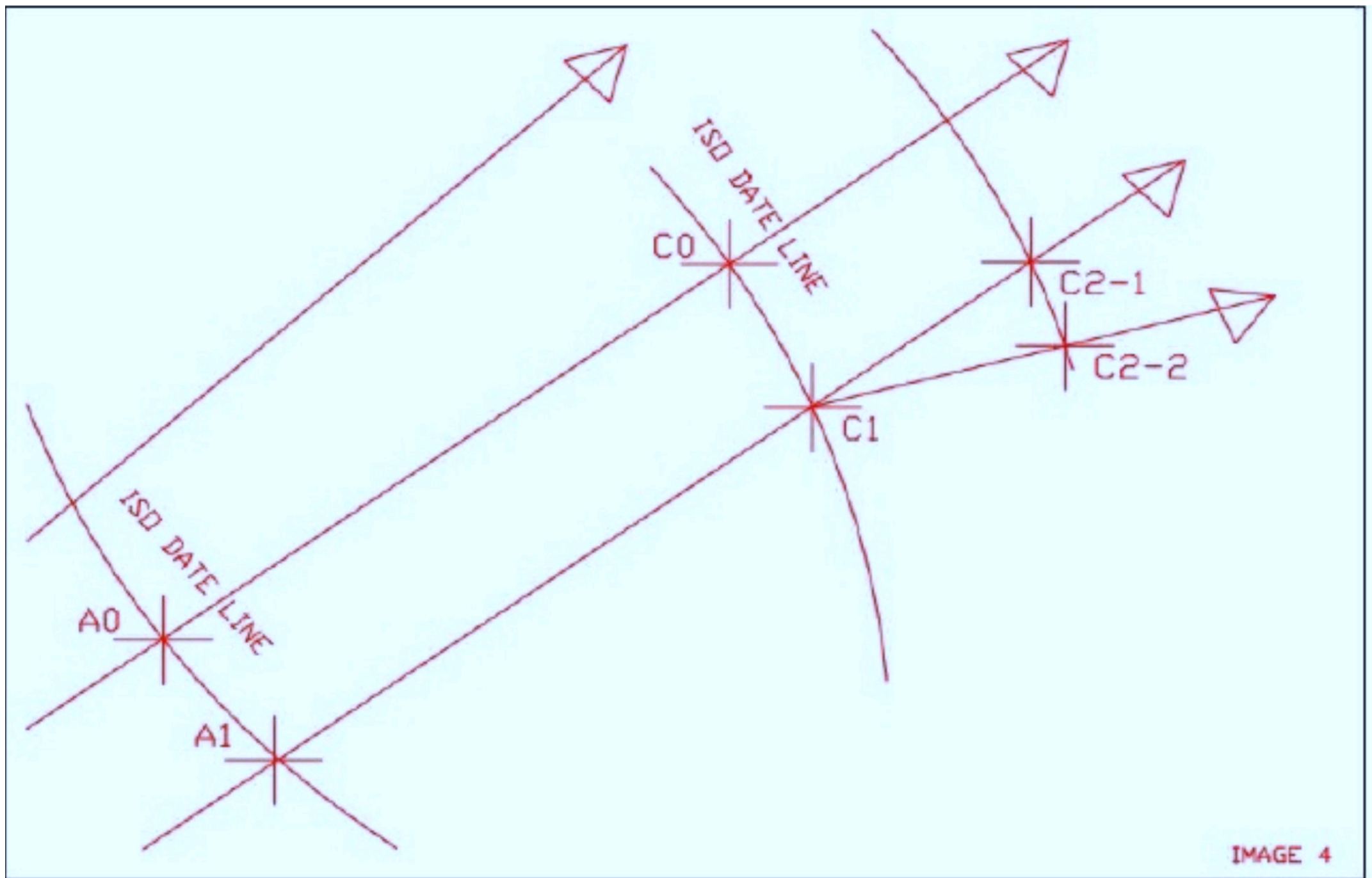


IMAGE 4

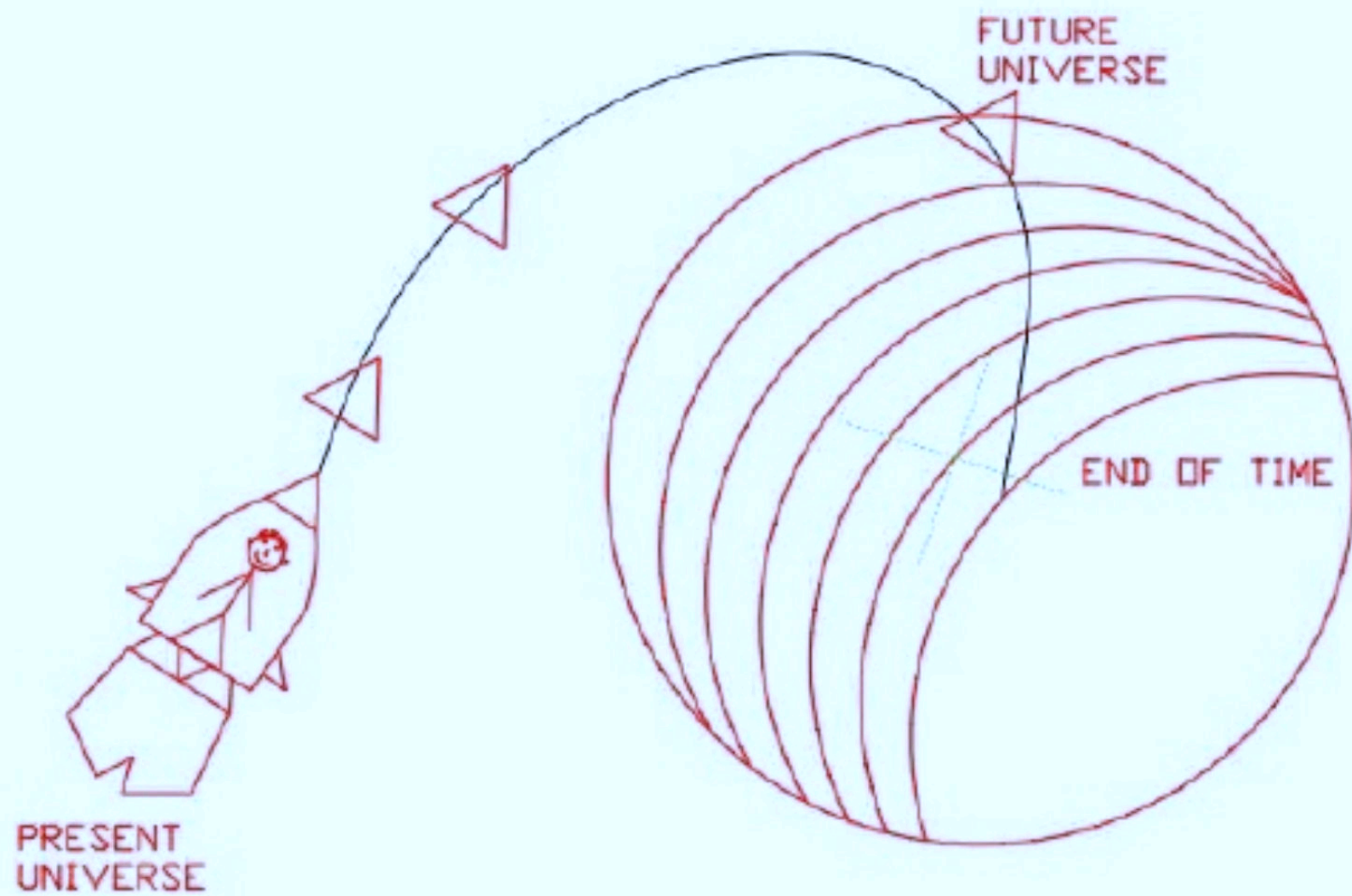
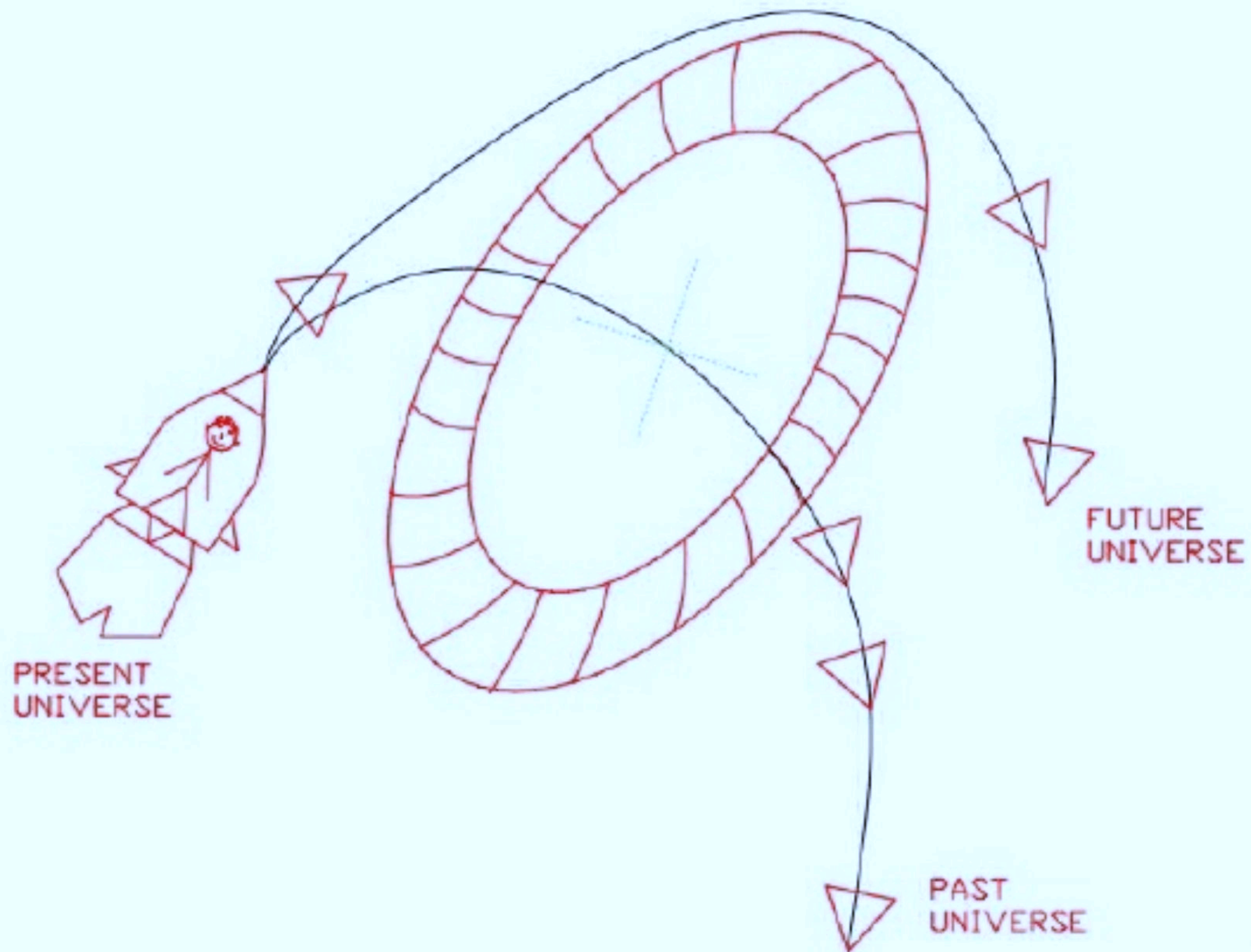


IMAGE 5A



T UNIVERSE 2.7 K

MASS = +∞
T EMISSION = 0 K

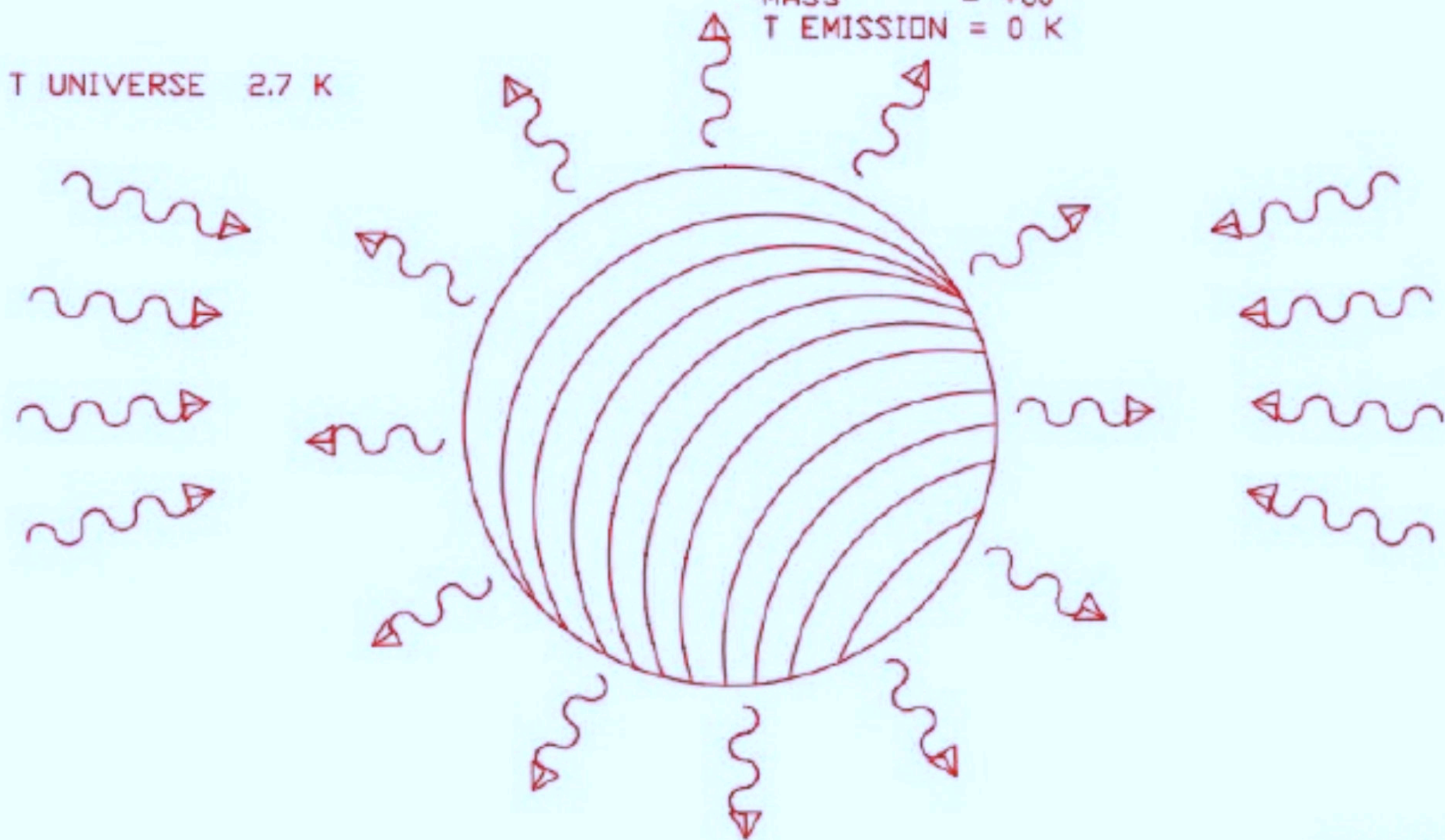


IMAGE 6A

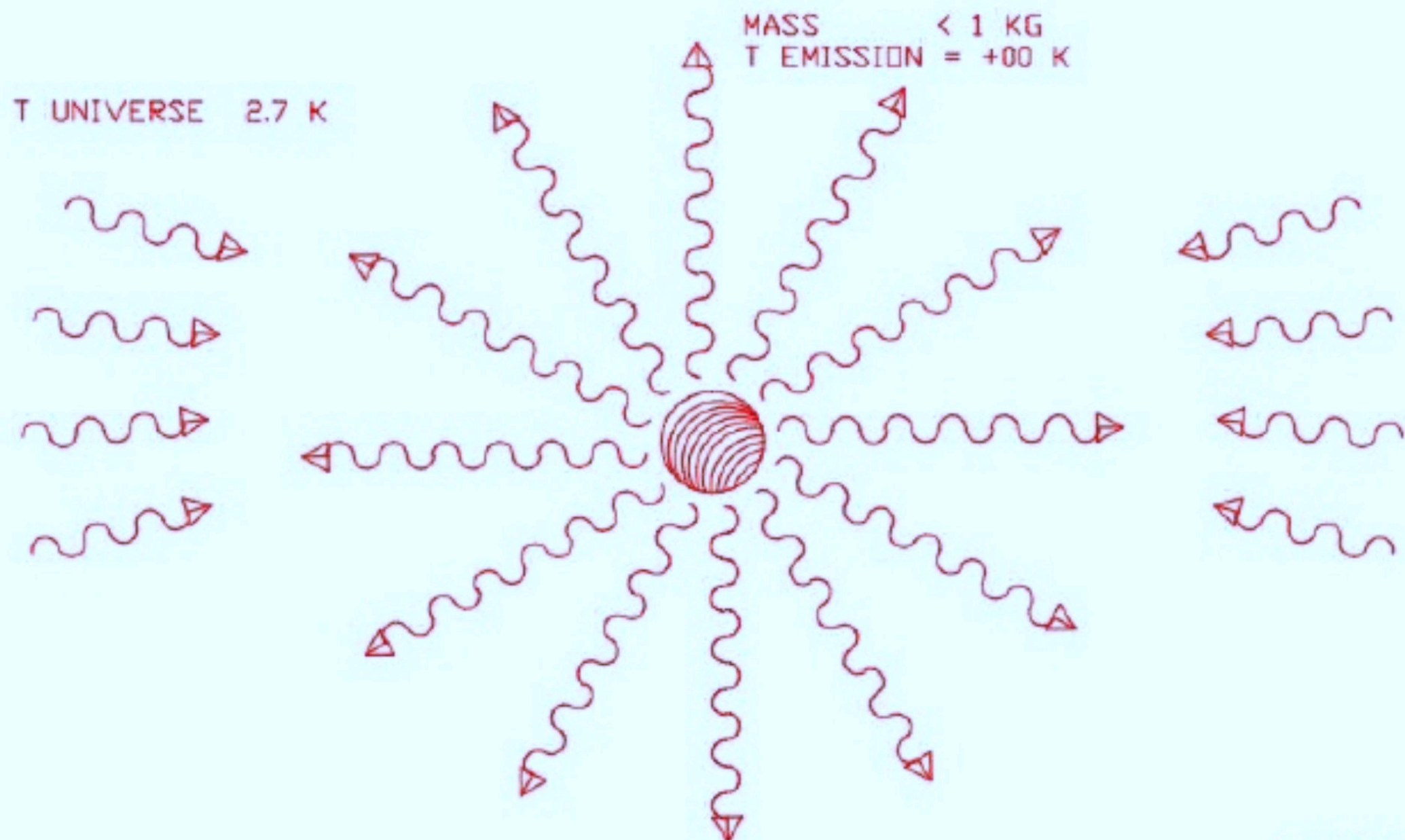


IMAGE 6B

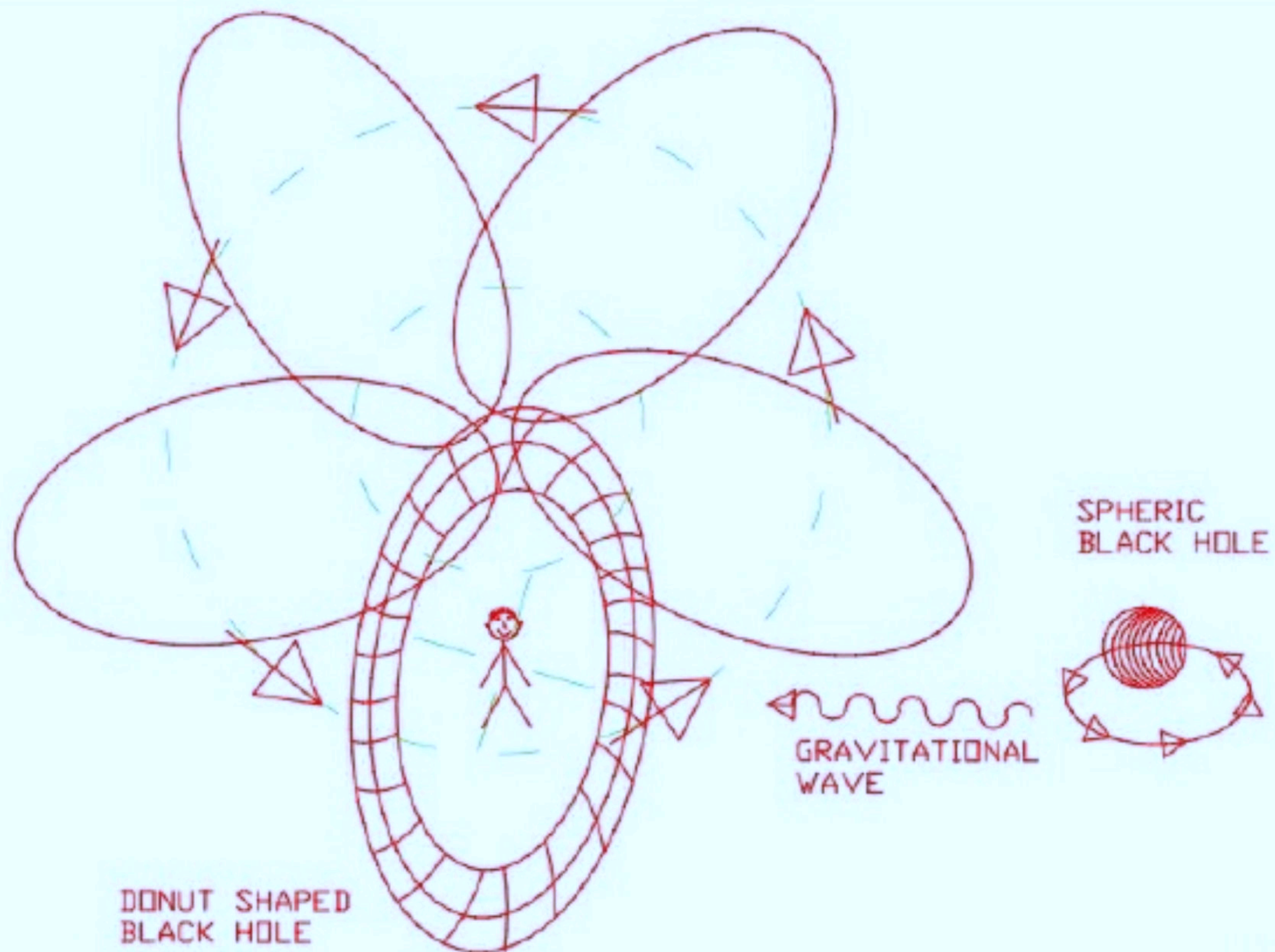


IMAGE 7

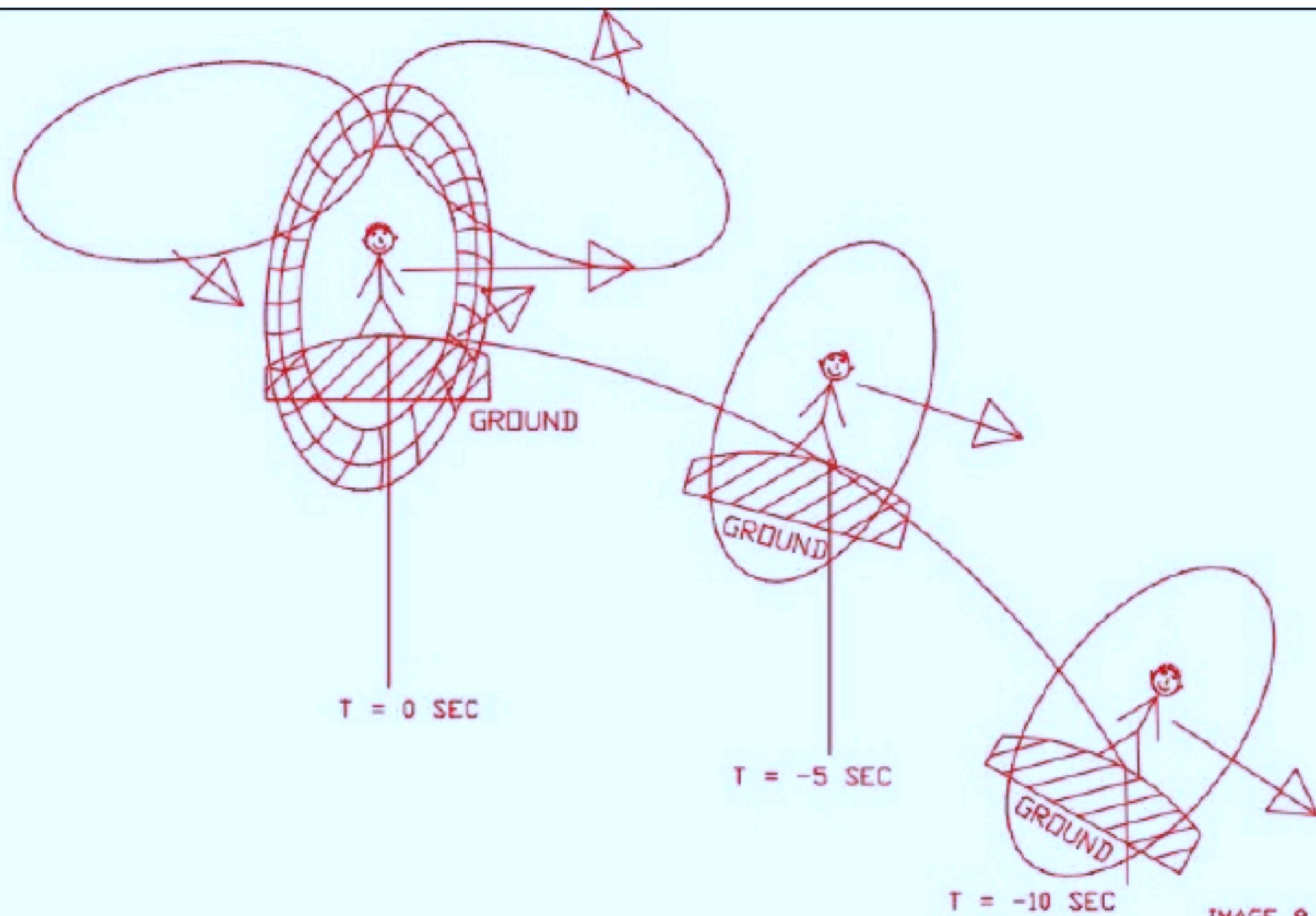
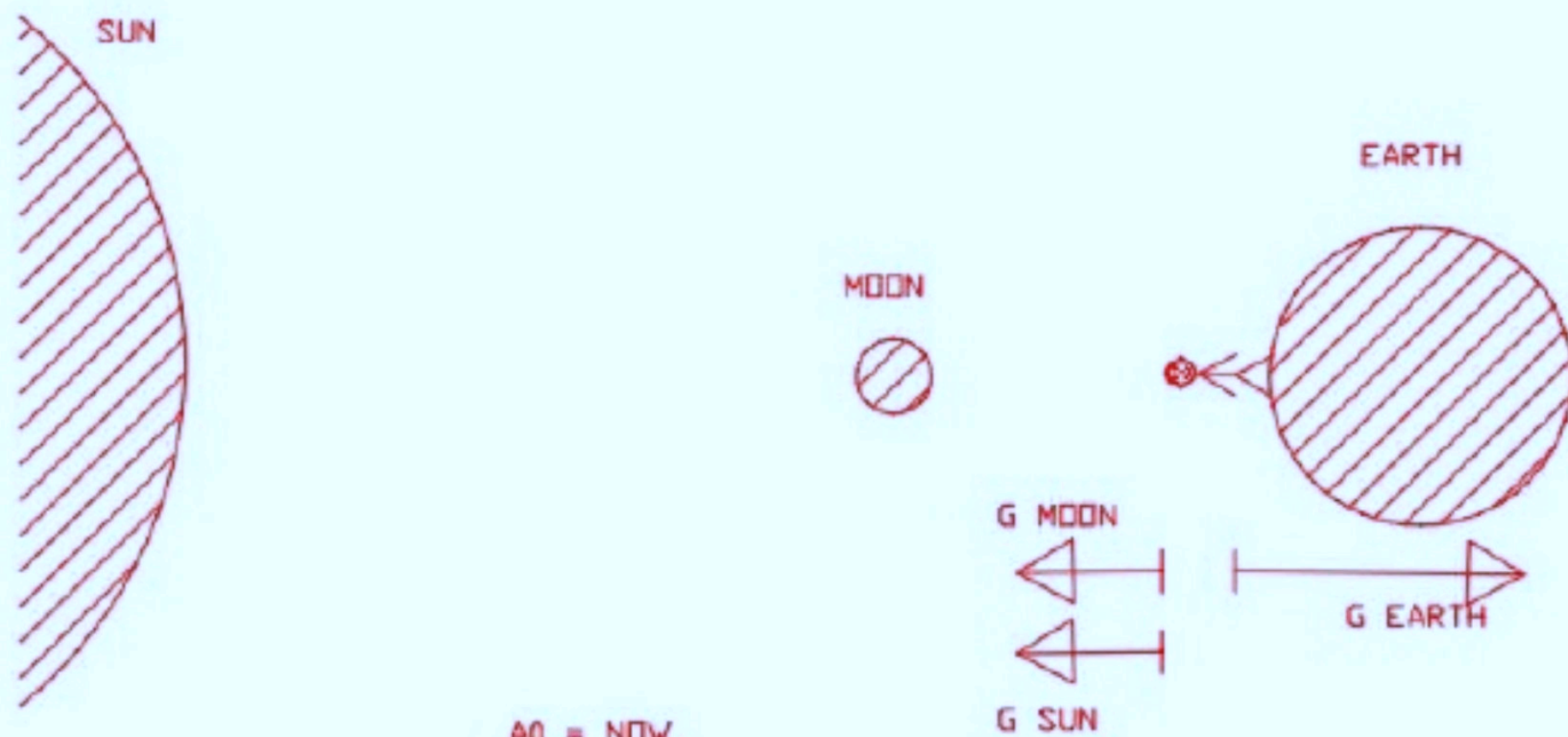
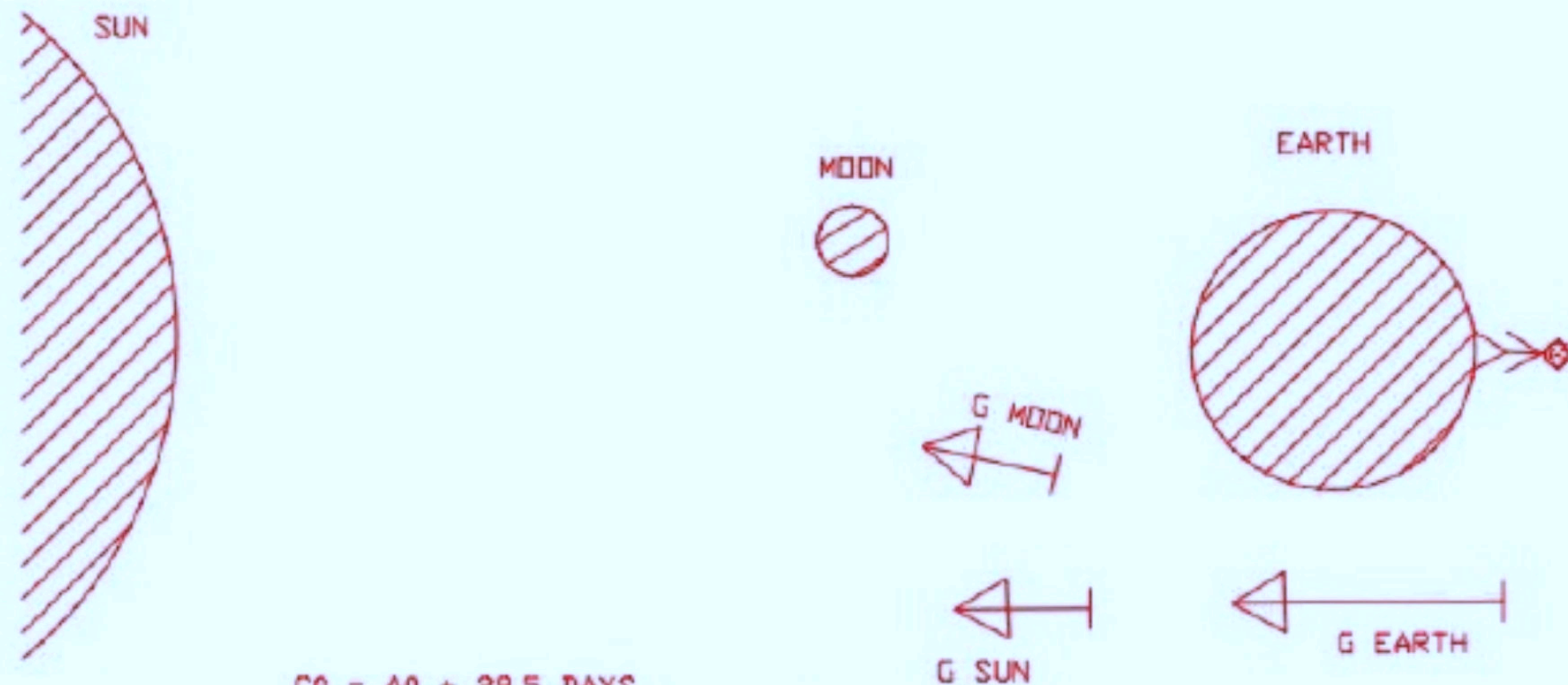


IMAGE 8



A0 = NOW

$$G_{TOT A0} = G_{EARTH} + G_{SUN} + G_{MOON} + \dots$$



$$C0 = A0 + 28,5 \text{ DAYS}$$

$$G_{\text{TOT } C0} = G_{\text{EARTH}} + G_{\text{SUN}} + G_{\text{MOON}} + \dots \langle \rangle G_{\text{TOT } A0}$$

$$G_{\text{TOT } C0} - G_{\text{TOT } A0} = \text{GRAVITATIONAL TIDAL WAVE @ ARRIVAL}$$

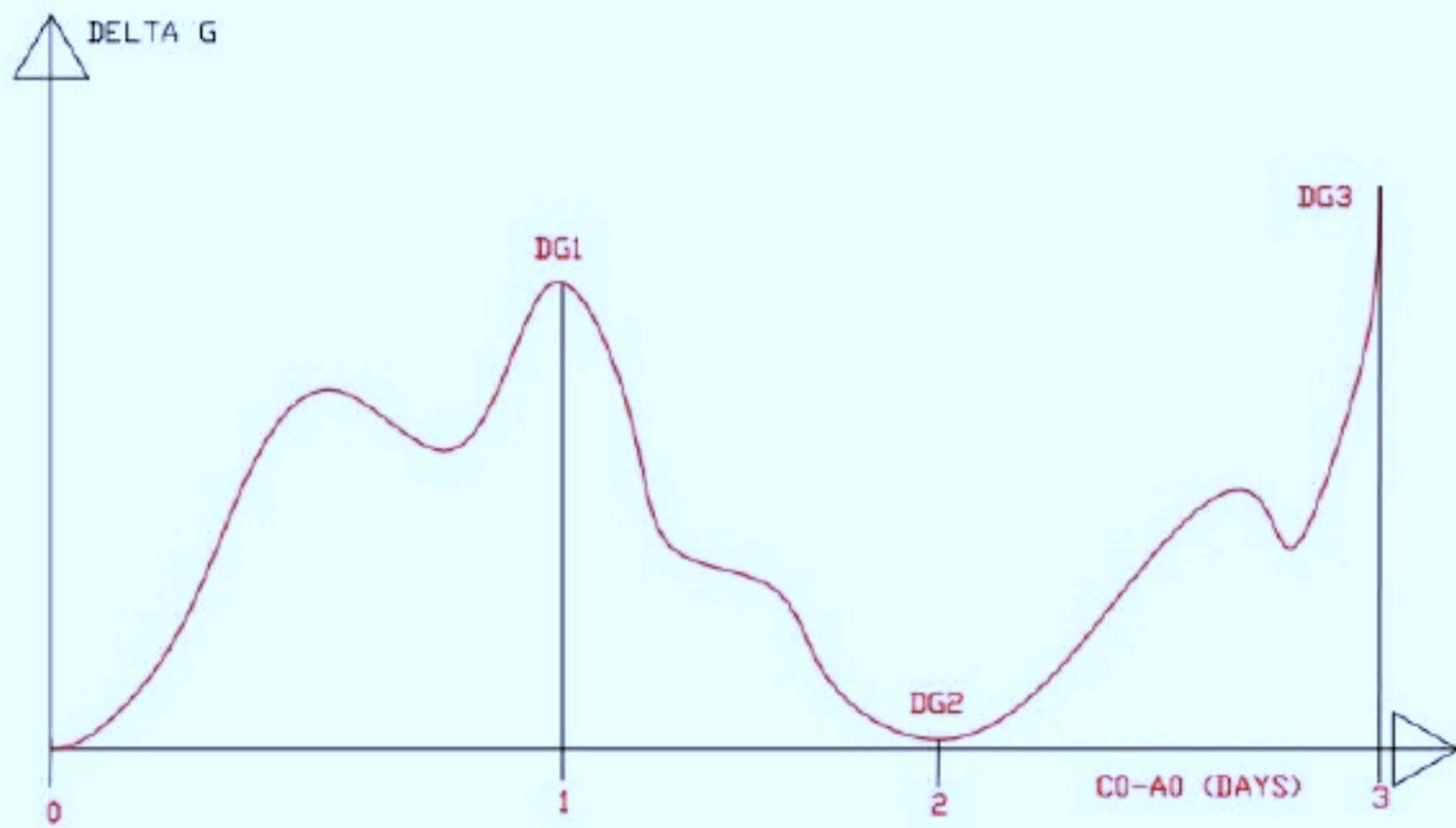
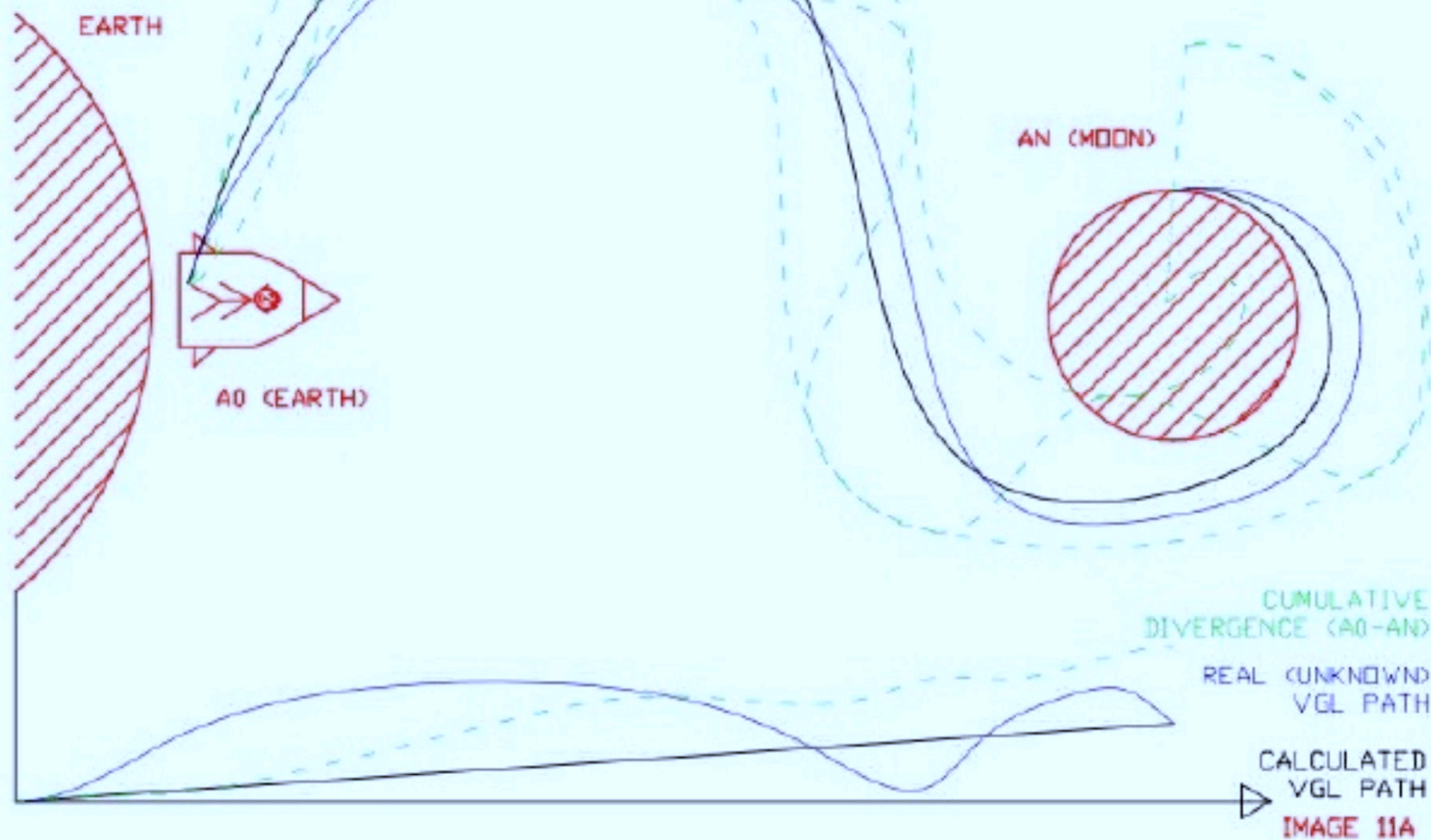
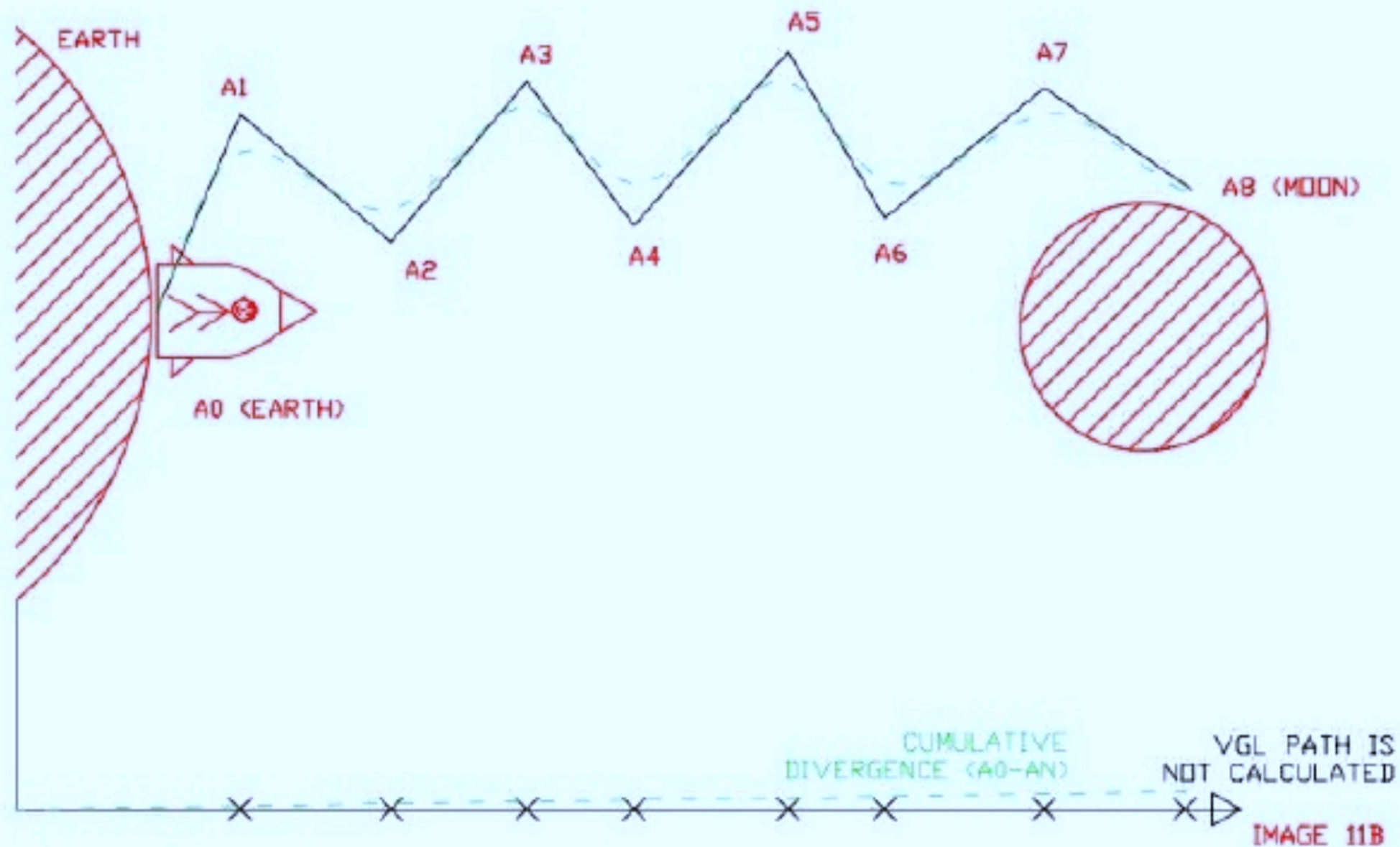
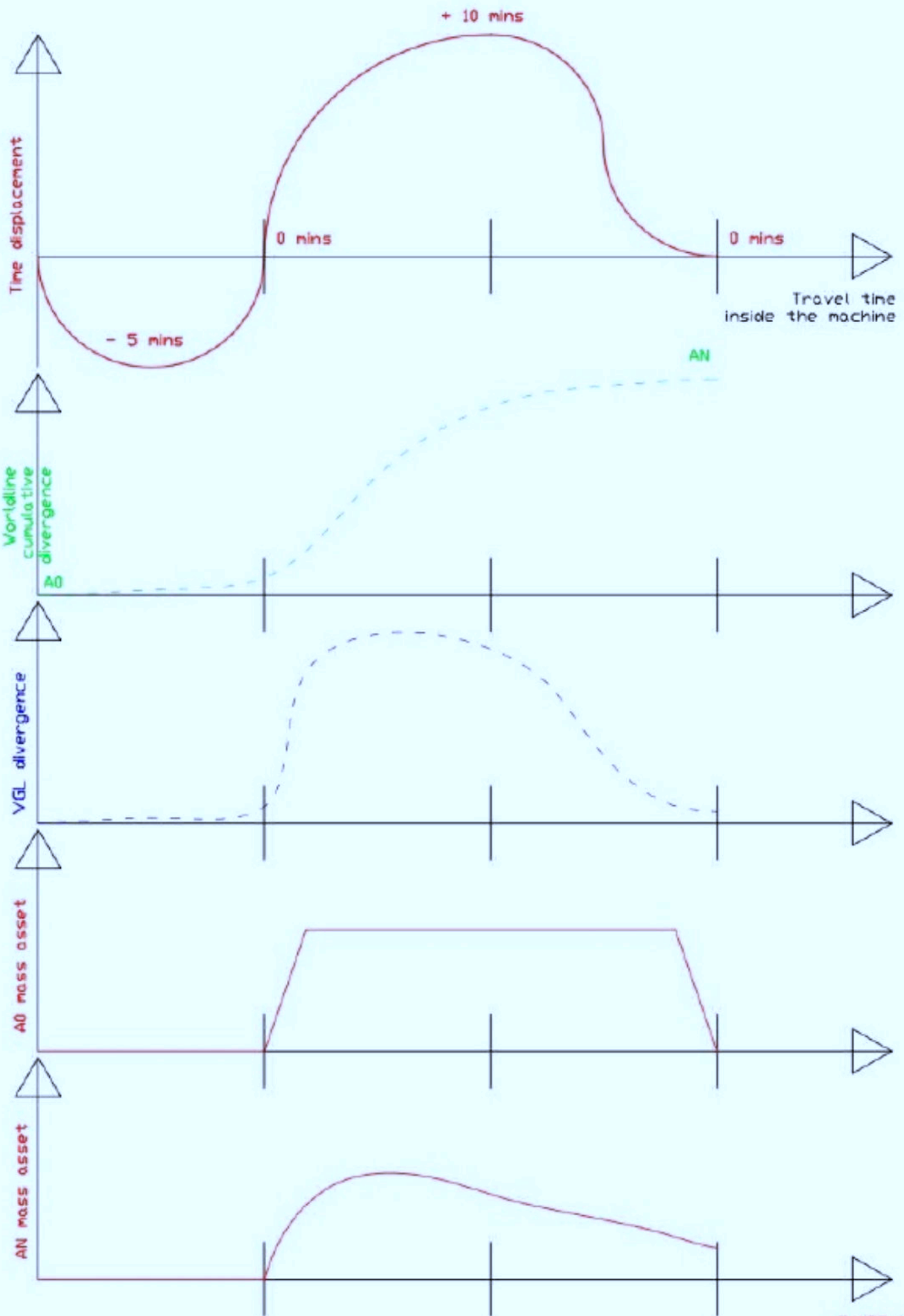


IMAGE 10







Titor: Through trial and error, and although they are quite heavy, hot and capable of putting out a great deal of energy (300 - 500 megawatts), it's discovered that these microsingularities can be electrified and captured. It is also interesting to note at this point that electrified singularities also have two event horizons. By spinning these various microsingularities, a localized Kerr field is created.

Fortunately, most black holes are not static. They spin. Spinning black holes are often referred to as Kerr black holes. A Kerr black hole has two interesting properties. One, they have two event horizons and two, the singularity is not a point, it looks more like a donut. These odd properties also have a pronounced affect on the black hole's gravity. There are vectors where you can approach the singularity without being crushed by gravity.

By using two microsingularities in close proximity to each other, it is possible to create, manipulate and alter the Kerr fields to create a Tipler gravity sinusoid. This field can be adjusted, rotated and moved in order to simulate the movement of mass through a donut-shaped singularity and into an alternate world line. Thus, safe time travel.

Now it all rests with CERN. Once they create microsingularities, through Trial and Error they experiment to make a Donut shaped singularity to manipulate gravity and make it possible to move a mass through the hole of the gravity donut, thus achieving Time Travel.

Details about a black holes and the Time machine will be seen next.

Titor: The source of power for the C204 that allows it to distort and manipulate gravity comes from two microsingularities that were created, captured and cleaned at a much larger and “circular” facility. The dual event horizons of each one and their mass is manipulated by injecting electrons onto the surface of their respective ergospheres. The electricity comes from batteries. The breakthrough that will allow for this technology will occur within a year or so when CERN brings their larger facility online.

Perhaps it would have been clearer to state that the math has been around since 1970. I would urge you to examine the properties of Kerr black holes and Tipler cylinders. An actual working prototype was first tested in 2034. On my worldline, time travel is not a public recreation but we are all aware that it exists. You may be disappointed to know that the ability to manipulate gravity is not the technical challenge that had to be overcome. Miniaturizing the clocks and sensors, creating clever ways to vent x-rays and creating a computer system dependable enough to calculate the changes required to the field were the main challenges. There are no missing pieces...just missing energy levels and a few very interesting subatomic particles.

Actually, there are 2 singularities in the unit. The gravity field is manipulated by three factors that affect it in distinct ways. Adding electric charge to the singularities increases the diameter of the inner event horizons. Adding mass to the singularities increases the area of gravitational influence around the singularities. Rotating and positioning the polar axis of the singularities affects and alters the gravity sinusoid.

The effects of the gravity produced by the unit do not have enough time to significantly alter physical objects within a reasonable distance from the outside of the sinusoid. No, things do not get smaller.

There is no relative movement in space due to three main factors. Large, kinetic energy inducing effects of the gravity field are compensated for by the interaction of the singularities. The mass of the unit and any objects inside the sinusoid do not exhibit any huge increases on the departure worldline during travel. The observed path of the traveler is obtained by changing the gravity, not by moving the vehicle. The black hole comes to you.

Now the answer to the creation of a unit that is capable of manipulating gravity is simple, once it is possible to create microsingularities. Now for those of you not familiar with black holes, let us have an introduction.



Loosely speaking, a black hole is a region of space that has so much mass concentrated in it that there is no way for a nearby object to escape its gravitational pull. Since our best theory of gravity at the moment is Einstein's general theory of relativity, we have to delve into some results of this theory to understand black holes in detail, but let's start off slow, by thinking about gravity under fairly simple circumstances.

Suppose that you are standing on the surface of a planet. You throw a rock straight up into the air. Assuming you don't throw it too hard, it will rise for a while, but eventually the acceleration due to the planet's gravity will make it start to fall down again. If you threw the rock hard enough, though, you could make it escape the planet's gravity entirely. It would keep on rising forever. The speed with which you need to throw the rock in order that it just barely escapes the planet's gravity is called the "escape velocity." As you would expect, the escape velocity depends on the mass of the planet: if the planet is extremely massive, then its gravity is very strong, and the escape velocity is high. A lighter planet would have a smaller escape velocity. The escape velocity also depends on how far you are from the planet's center: the closer you are, the higher the escape velocity. The Earth's escape velocity is 11.2 kilometers per second (about 25,000 m.p.h.), while the Moon's is only 2.4 kilometers per second (about 5300 m.p.h.).

Now imagine an object with such an enormous concentration of mass in such a small radius that its escape velocity was greater than the velocity of light. Then, since nothing can go faster than light, nothing can escape the object's gravitational field. Even a beam of light would be pulled back by gravity and would be unable to escape.

The idea of a mass concentration so dense that even light would be trapped goes all the way back to Laplace in the 18th century. Almost immediately after Einstein developed general relativity, Karl Schwarzschild discovered a mathematical solution to the equations of the theory that described such an object. It was only much later, with the work of such people as Oppenheimer, Volkoff, and Snyder in the 1930's, that people thought seriously about the possibility that such objects might actually exist in the Universe. These researchers showed that when a sufficiently massive star runs out of fuel, it is unable to support itself against its own gravitational pull, and it should collapse into a black hole.

In general relativity, gravity is a manifestation of the curvature of spacetime. Massive objects distort space and time, so that the usual rules of geometry don't apply anymore. Near a black hole, this distortion of space is extremely severe and causes black holes to have some very strange properties. In particular, a black hole has something called an 'event horizon.' This is a spherical surface that marks the boundary of the black hole. You can pass in through the horizon, but you can't get back out. In fact, once you've crossed the horizon, you're doomed to move inexorably closer and closer to the 'singularity' at the center of the black hole.

You can think of the horizon as the place where the escape velocity equals the velocity of

light. Outside of the horizon, the escape velocity is less than the speed of light, so if you fire your rockets hard enough, you can give yourself enough energy to get away. But if you find yourself inside the horizon, then no matter how powerful your rockets are, you can't escape.

The horizon has some very strange geometrical properties. To an observer who is sitting still somewhere far away from the black hole, the horizon seems to be a nice, static, unmoving spherical surface. But once you get close to the horizon, you realize that it has a very large velocity. In fact, it is moving outward at the speed of light! That explains why it is easy to cross the horizon in the inward direction, but impossible to get back out. Since the horizon is moving out at the speed of light, in order to escape back across it, you would have to travel faster than light. You can't go faster than light, and so you can't escape from the black hole.

Once you're inside of the horizon, spacetime is distorted so much that the coordinates describing radial distance and time switch roles. That is, "r", the coordinate that describes how far away you are from the center, is a timelike coordinate, and "t" is a spacelike one. One consequence of this is that you can't stop yourself from moving to smaller and smaller values of r, just as under ordinary circumstances you can't avoid moving towards the future (that is, towards larger and larger values of t). Eventually, you're bound to hit the singularity at $r = 0$. You might try to avoid it by firing your rockets, but it's futile: no matter which direction you run, you can't avoid your future. Trying to avoid the center of a black hole once you've crossed the horizon is just like trying to avoid next Thursday.

Incidentally, the name 'black hole' was invented by John Archibald Wheeler, and seems to have stuck because it was much catchier than previous names. Before Wheeler came along, these objects were often referred to as 'frozen stars.' I'll explain why below.

Stars like our own are relatively small, and when their nuclear fuel is nearly exhausted they collapse into small dim star called a white dwarf. "Chandrasekhar calculated that a cold star of more than one and one half the mass of the sun would not be able to support itself against its own gravity. (This mass is now known as the Chandrasekhar limit)" (Hawking, 1988, p.84). Stars with masses above this limit have been calculated to violently explode upon burning the last of their fuel and collapse into an extremely dense object called a neutron star. Shortly after Einstein published his general relativity theory, a man by the name of Karl Schwarzschild used Einstein's field equations to predict that a spherical star with a mass larger than the Chandrasekhar limit (around three solar masses) would not just collapse to a smaller star but would continue to collapse to an infinitely small point called a singularity (Hawking, 1988). By collapsing the mass into an infinite space the density is then infinite, and the star would have an intense gravitational field. A mathematically defined region where the gravity would prevent any particles and even light from escaping would then surround this singularity. This Schwarzschild radius is now known as the event horizon. It represents the region of no return, and nothing that enters this highly curved region of space-time could escape. In 1969 a scientist named John Wheeler coined the term black hole to represent this object.

Kerr-type Black Hole

As it turns out the collapse of a star would not likely, according to most physicists, settle down into a static, non-rotating state but instead would likely be spinning. In the 1960's, Roy Kerr worked out some equations that predicted that a black hole spinning at a high velocity would assume a ring shaped singularity rather than a point singularity (Halpern, 1992). This would be due to the centrifugal force of the spin. Under the conditions of a Kerr-type black hole one could enter from a polar region and travel through the center of the ring thereby reducing the severe tidal forces exhibited by other types of black holes. Gribbin (1992) states that there are theories that seem to indicate that such a Kerr-type black hole could, like the Einstein-Rosen bridges of the Schwarzschild solution, produce a gateway to either another universe or some perhaps large displacement in our own, not as another black hole but as a "white hole" that repulses matter out into the "other" universe.

Gribbin further states that " An astronaut who dived through the ring but stayed close to it and circled around the center of the black hole in an appropriate orbit would be traveling back in time" (Gribbin, 1992, p.163). If the other side is a white hole where matter is forced out into the universe, then perhaps travel is possible. But is it a white hole in another universe or a white hole in the past of our universe? According the common belief, white holes may have been common in the early history of the universe but chances of finding one near our present timeline is unlikely. Others think that quasars could be white holes, but they are so far away that they represent light from many millions to perhaps billions of years ago. Remember that you cannot return to our universe due to the event horizon on our side. On the other hand perhaps these so called other universes may just be our own universe at some other time." Just as Schwarzschild's solution can be extended into an antiworld-another universe, where time runs backwards- so Kerr's solution extends into an infinity of other universes both worlds and anti-worlds" (Davies, 1995, p.244).

Another Kerr solution (Gribbin, 1992) involves a ring singularity spinning so rapidly that it flings off its event horizon thereby "exposing" it. This is called a naked singularity. If there was no event horizon to prevent relativistic escape from the black hole, and then an astronaut could theoretically enter, make a few passes around the ring and return on the same side. There would still be very powerful gravitational forces to overcome but at least sub-light speed is a viable escape velocity.

Like anything that rotates, it becomes flattened at the poles and broader at the equator. Here is a diagram showing the main parts of a Kerr, rotating black hole based on general relativity:

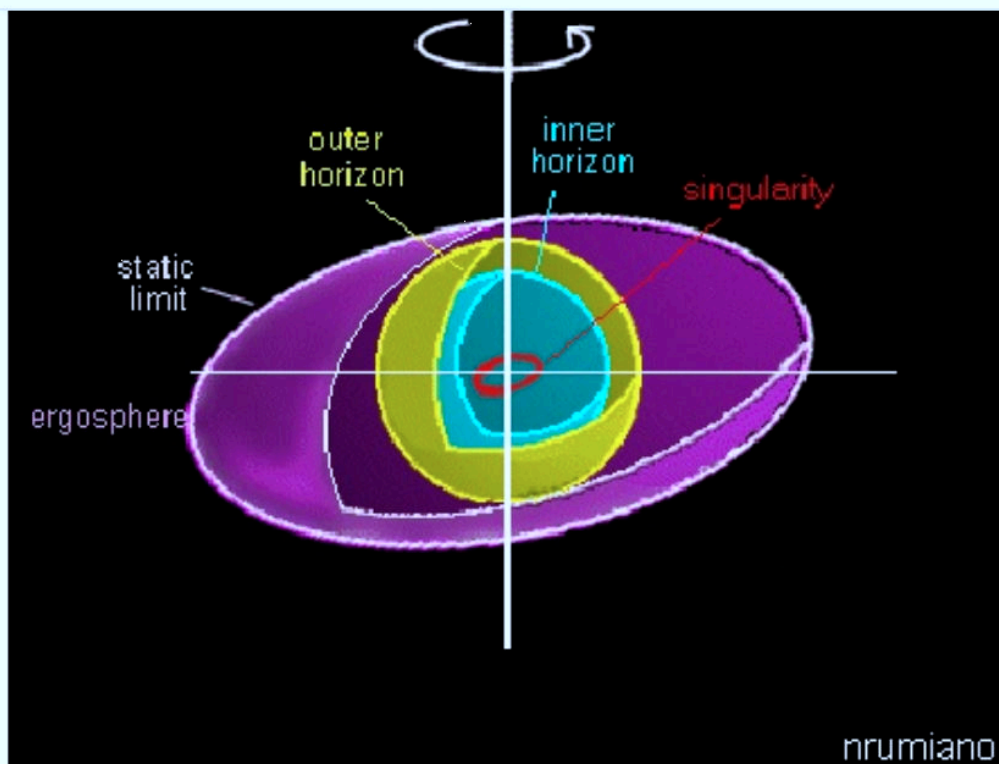


Figure 3 Kerr Black Hole

Rotating 'Kerr-type' black holes become flattened, and their internal 'structure' changes in very interesting ways. In non-rotating black holes, the 'event horizon' and the 'surface of infinite gravitational redshift' is the same spherical surface surrounding a point singularity. For a rotating black hole, the event horizon detaches from the infinite redshift surface as you move from the poles to the equator where they have their maximum separation. The singularity becomes a ring in the equatorial plane of the black hole.

Tipler Cylinder

A Tipler Cylinder is a theoretical method of time travel that could conceivably work within current understanding of (The science of matter and energy and their interactions) physics, construction of the device notwithstanding.

Frank J. Tipler suggested in 1974 that a sufficiently-long (A surface generated by rotating a parallel line around a fixed line) cylinder with the mass of several (A star that has collapsed under its own gravity; it is composed of neutrons) neutron stars could be constructed, and then induced to spin along its longitudinal axis. As the spin approaches the speed of light, the cylinder should create a frame-dragging effect and warp space and time in its locality. A spaceship traveling in the direction of the spin or against it in a certain path will travel through time along a Closed Timelike Curve, similar to effects theoretically caused by Kerr-Newman objects.

Some physicists argue that since Tipler Cylinders allow Closed Timelike Curves they violate Roger Penrose's Cosmic censorship hypothesis as naked singularities would be visible. Others argue that since (The relation between causes and effects) causality is not built into Einstein's field equation, these regions may actually be able to exist.

To understand the story of Titor, the term “worldline” has to be clearly understood. A worldline is one in which Titor’s Time Machine lands on. This could be his destination, and also the source. He also says there is infinite number of Worldlines in the superverse. To understand this, let us now consider the famous Schrödinger’s cat experiment.

Schrödinger's cat is a seemingly paradoxical thought experiment devised by Erwin Schrödinger that attempts to illustrate the incompleteness of the theory of quantum mechanics when going from subatomic to macroscopic systems. The experiment proposes: A cat is placed in a sealed box. Attached to the box is an apparatus containing a radioactive nucleus and a canister of poison gas. The experiment is set up so that there is a 50% chance of the nucleus decaying in one hour. If the nucleus decays, it will emit a particle that triggers the apparatus, which opens the canister and kills the cat. According to quantum mechanics, the unobserved nucleus is described as a superposition (mixture) of "decayed nucleus" and "undecayed nucleus". However, when the box is opened the experimenter sees only a "decayed nucleus/dead cat" or an "undecayed nucleus/living cat." The question is: when does the system stop existing as a mixture of states and become one or the other? The purpose of the experiment is to illustrate that quantum mechanics is incomplete without some rules to describe when the wavefunction collapses and the cat becomes dead or remains alive instead of a mixture of both.

The many worlds interpretation accepts the wave function derived by quantum mechanics by assuming that there are, in fact, two simultaneous parallel worlds, one in which the cat is dead and one in which the cat is alive.

Now let us apply the concept of infinite worldlines to the Schrödinger’s cat experiment. When the observer opens the box, he finds either a dead or a live cat. Let us assume that the observer is allowed to see when the cat dies. The observer waits for the nucleus to decay while watching the cat for one hour. Since the nucleus decaying is based on probability, the death of the cat can occur at any second. We say it is second, but we do not know the exact time the nucleus decays. So in one worldline, the cat died in one minute. But that does not mean there are 60 worldlines. The cat could also die at 1 minute and 30 seconds, so seconds have to be taken into consideration. But still, it does not mean that there are 3600 worldlines, since an hour has 3600 seconds. May be the cat died at one minute and thirty milli seconds.

Theoretically speaking, the exact time the cat dies is unknown and the cat not dying in that one hour is another possibility. Here is where infinite worldlines come into picture. In that one hour, to spot the exact time the cat dies varies each time the experiment is repeated 10^{-4} , 10^{-100} , 10^{-1000}infinite.

Thus the interpretation of infinite worldlines could be an answer to incompleteness of the theory of quantum mechanics. If person travels to the past, he can meet himself. If he ended in another more divergent worldline, he could not meet himself. The reason could be, his father married his mother sometime later than that in the original worldline. So there is a possibility that he can meet his brother or sister(born for his parents, but are not born in his original worldline) rather than meeting himself.

There could be another much more divergent Worldline where his Father married another woman, not his mother. That is much more divergent and a different son/daughter could be born for his father. Thus the observer once born, lasts forever. There could be infinite possibilities in a person's life that gives rise to different and infinite worldlines.

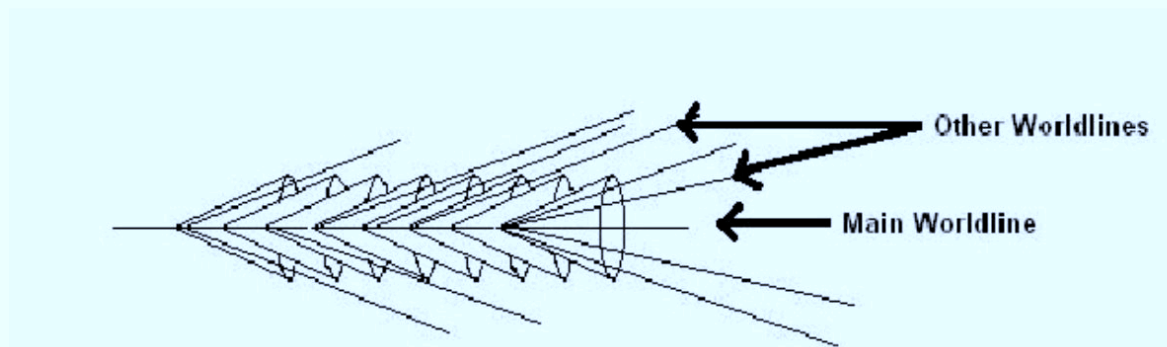


Figure 4 Shows the concept of infinite Worldlines, infinite cones at each point of time that gives rise to more Worldlines and cones

This forms the basis of Titor's Time Travel; this could also be the basis of the science of tomorrow if Titor was telling the truth. Titor talks about divergence. The farther you are from the centre of the cone, the more the divergence gets. Also Titor's Time machine is capable of traveling only 60 years. It can travel further back, but the farther the travel, the lesser the Divergence Confidence of the Target Worldline. For this Titor needs to choose an intermediate point for traveling to 1975 from 2036 and back. ($2036 - 1975 = 61$). Now from 2036, Titor jumps backward in time from to 1998 and then to 2036 to execute his orders. The path of his mission will be discussed in detail in the next topic.

Traveling between Worldlines

Now comes the traveling part of it. How does Titor Travel through time to avoid paradoxes in the superverse? With the above model, the Grand Father paradox is impossible. The grandfather paradox states, if a person travels backward in time to meet his grandfather, and he was somehow able to kill his own grandfather, then if he travels forward in time, his father would not exist, and without his father, his mother wouldn't have got married to his father and ultimately he would never have been born.

According to Titor's time travel, if a person kills his grandfather and travels forward in time, he would not meet his father and would land up in a much large divergent worldline. But getting back to the original worldline where his father existed, i.e. the worldline in which his grandfather was not killed and still alive is also possible. For this, the person who killed his grandfather in his past has to travel backward in time to the point where he arrived on that worldline before killing his grandfather, and eventually to the point before he arrived on that worldline where his grandfather is still alive. From there, without turning off his time machine, he can travel forward in time to his Worldline of origin to land at a point in time after where he originally left that worldline. He would land up in a worldline where he has left to the past. The others who are waiting for him to return would see him arrive.

In John's concept of time traveling, the grandfather paradox concept is similar to causing divergence after landing on a worldline and turning off his time machine. To travel back to his exact original worldline of origin, he should not travel forward in time directly, because if he does, he would end up in a much more divergent future, not his. For this he needs to follow the path described above for avoiding the grandfather paradox. This concept is also described in the below picture.

Though the number of Worldlines are infinite, by controlling divergence, each John is able to get to a Worldline where a John has left to travel to the past. The other Johns automatically land up in their worldlines. This concept is what which falls a prey to the debunkers. But still even in 2036, Titor said they were not able to understand a lot of things about the superverse. This concept cannot be debunked on the basis that the laws of nature cannot allow two or more "Johns" to land up on the same worldline. This is pretty much acceptable.

Two Johns of the same Timeline, that is two Johns of same age and weight cannot exist on the same worldline, which can be taken as a property of John's singularity. If two there is a possibility of two Johns landing on the same worldline, the gravitational force might repel each other and send the other John to another similar worldline, with the result that no two Johns exist in a single worldline.

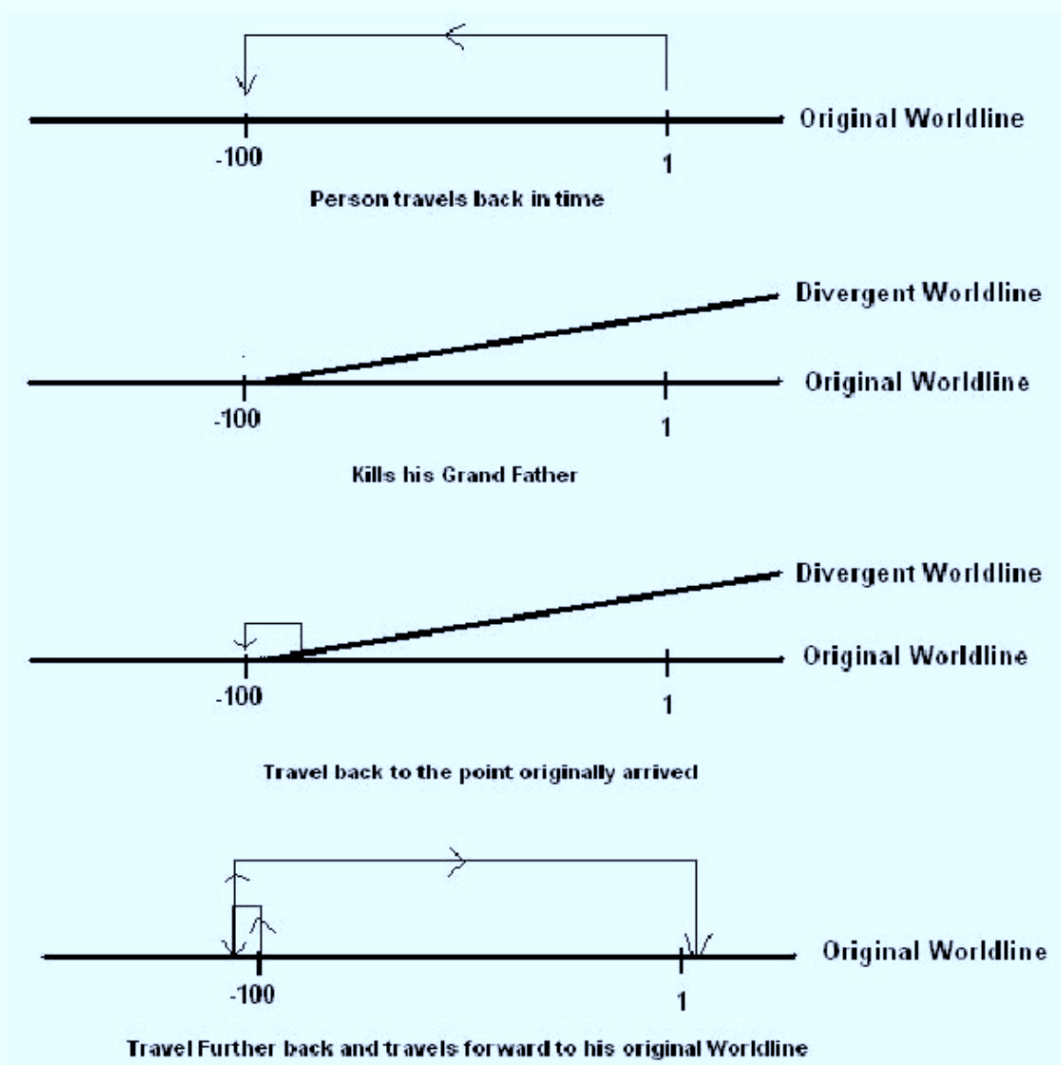


Figure 5 Shows the concept of traveling between worldlines

In the following statements John gives explanation about traveling between worldlines. There he admits that traveling between worldlines is in practice, but even that is not completely understood at many levels in 2036. So debunking Titor on this basis, which is not clearly understood even in 2036 by the experts in time travel, is not fair.

Titor: On my worldline (A) in 2036, I was given a mission in 1975.

I turn my machine on and jump to another worldline (B) in 1975 with about a 2% divergence from (A).

From the very point I turn my machine off on (B), I create a new worldline just because I'm there. This line can be described as (C) and started when I got to (B).

I am now doing my mission on line (C) in 1975 when I discover a very a good reason to go forward on (C) and see what happened. I turn my machine on and go forward on (C) to the year 2000.

When I turn it off, I start another line called (D). So from my perspective, here we are on line (D) in the year 2000. In order to go home to line (A) I must turn my machine on and go back on (D) until I reach (C) which in turn would take me back to (B) which in turn takes me to a point before I arrived on (B) then I go forward from the point I arrived on (B) back to (A).

If all this isn't enough to get your head spinning...here are some issues we're dealing with in 2036.

1. Did your worldline (D) exist at all before I got here from (C)? (personally I don't see how it couldn't)
2. What happens at the end of a worldline at the edge of the superuniverse?
3. If there are infinite worldlines and infinite possibilities and an edge to the superuniverse, doesn't that mean occurring events on worldliness are staggered as they reach the edge? (time could end at any moment without warning).

Titor says most of the Theoretical math behind time travel is still under research, yet the distortion unit is built based on Trial and Error. Building a time machine rests on the capabilities of a microsingularity, which CERN is after today.

Titor: A great deal of the theoretical mathematics behind time travel was discovered by testing various ideas in string theory and eliminating the anomalies. As I recall, it was this original work that led to the final proof that six dimensions do indeed curl up to give us our observable universe. This in turn supported more of the theoretical math behind time travel...etc. It's ironic that the beauty of string theory gives future engineers the confidence to create the distortion unit even though the final proof is still unknown .

Titor was never specific about the path of his journey from 1975 to 2000. First he says he traveled from 1975 to 2000 due to personal reasons as because of the interactions he had with his family in 1975, He then later makes confusing statements about his journey by saying he has to go back to 1998 on his way home. This can be explained clearly after a deep research. This part of it was vulnerable to be debunked, by those who cannot think deep.

Posted by John Titor on 28 January 2001:

My initial flight was from 2036 to 1975 (61 yrs). I then went from 1975 to 2000 (25 yrs.) Later this year, one of two favorable windows will open and I will return to my 2036 (35 yrs.) I am here now for personal reasons.

Posted by John Titor on 28 January 2001:

For all of you interested in coming back with me to 2036, perhaps we should discuss the trip. Please be aware, the displacement unit moves through time, not space. First, we will be driving the current vehicle (Chevy truck) with the displacement unit in it to Tampa Florida. From there, we will go back to my arrival date on this worldline. Then we will have to drive to Minnesota, sell the current vehicle and get another one that would have been around in 1975. We will then move the displacement unit (500 lbs or so) into the new vehicle and go back to 1975. Once in 1975, we'll drive back to Tampa and make the final hop to 2036. If you'd like to stay in 1975, you're welcome to do that.

Till this time John has said to travel back to his Worldline, he needs to drive back to 1975 and then to 2036. But in the below posts he says he'll be spending about three weeks in April 1998 on his way to 1975.

Posted by John Titor on 10 March 2001:

After going over my flight plan home, I have discovered my VGL holdover period is a bit longer than I expected. I will be spending at least three weeks in April of 1998 as I make my way back to 1975. Therefore, I not only offer you the chance to leave a message to yourself in 2036 but I offer you the chance to leave yourself a message in 1998. I will take any compiled messages and email addressees you provide and send them on the net when I get to 1998.

Titor's primary mission is to get an IBM 5100 portable computer from the year 1975 and get it "tweaked" by his grandfather to access its hidden functions.

Titor: The 5100 had a very simple and unique feature that IBM did not account for and decided it was not in their best interest to advertise (which in hindsight was not very smart). This accidental feature was thus removed from any future desktop computers. In order to take advantage of this feature, the 5100 I have now required a couple of special "tweaks" that had to be done by one of the software engineers in 1975. Anyone who is familiar with this feature and was told to keep their mouth shut about it will be able to tell you what it is.

This feature is confirmed by the second engineer in IBM 5100's team in Rochester, Mr. Bob Dubke. This article about the time traveler John Titor appeared in the Rochester magazine.



Figure 6 Shows an IBM 5100 Portable Computer

This unique feature is the system 360 emulator hidden in the ROM (ROM is the abbreviation for Read Only Memory) of the IBM 5100. This was the feature IBM never revealed during the marketing of the IBM 5100, because of worries of their competitors using it. For this, in those days, they also provided a lock that would prevent any hacker

from accessing the s/360 emulator. On the outside of the 5100, there is a toggle switch which allows the user to choose between working in either APL or BASIC. But in order to take advantage of the s/360 emulator, the panel needs to be opened and the “tweaking” has to be done by one of the software engineers in 1975. The ROM chips are then taken out of the IBM 5100 computer. Though Titor said that he carried the entire computer from 1975, the other parts of the computer are obviously of no use and it is not smart for a time traveler to carry the entire computer which is heavy to handle. Why did Titor say that he carried the IBM 5100 computer along with him? Because if he said he carried only the ROM chips, then the mystery of his story would have been easily solved.

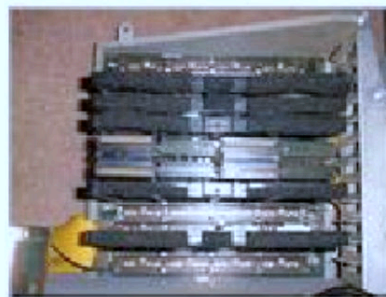


Figure 7 Shows the internal parts of an IBM 5100 machine

According to Bob Dubke, the second engineer on IBM's 5100 team in Rochester, that secret function was his contribution to the design of the computer. The function, which IBM suppressed because of worries about how their competition might use it, was an interface between the assembly code surrounding the computer's ROM exterior, and the 360 emulator hidden beneath it. (IBM declined to comment for this story.) The 5100's emulator gave programmers access to the functions of the monstrous, and much less portable machines, that IBM had produced during the 1960s. An imprint of a hook on the outside of the 5100 symbolized the ability of Dubke's interface to drop into what Titor called "legacy code," and scoop out any necessary operating instructions.

Information from other sources also confirms this.

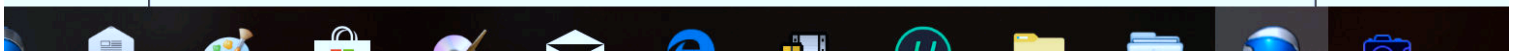
Known as Read Only Storage and reported as being 48 kbytes per chip (but how many chips?). So, the quantity of memory is still unknown, although labyrne reports that 'it was very big. In an effort to bring the 5100 to the market quickly they actually created a ROM emulation of the IBM mainframe S/360, and then plugged in the code for BASIC and APL in the ROM. So, the 'PALM' processor actually emulated an IBM S/360, running interpreted BASIC and APL. Crude, but incredibly effective.

The IBM 5100, an early single user portable computer, also ran APL\360. They wrote an emulator for as much of the 360 instruction set as APL needed, and replaced the OS interface with code to talk to the keyboard, screen, and cartridge tape that the 5100 had. It wasn't fast, but it was real APL and was quite usable.

This accidental feature or the s/360 emulator is put in the ROM of the IBM 5100 due to time constraints to quickly port an APL on to it and make it a desktop computer. The small size of the IBM 5100 machine and the fact that it is made quickly available on the market in less than a year and a half from the start is due to this fact.

How is this 360 emulator special? For this we need to go into the system 360 architecture and the system 360 family of machines introduced by IBM in the 1960s.

The System/360 was a single series of compatible models for both commercial and scientific use. The System/360 later evolved into the System/370, the System/390, the zSeries, and the System z9. System/360 (suggesting a "360 degree", or "all-around" computer system) incorporated features which had previously been present on only either the commercial line (such as decimal arithmetic and byte addressing) or the technical line (such as floating point arithmetic). The System/360 was also the first computer in wide use to include dedicated hardware provisions for the use of operating systems. Among these were supervisor and application mode programs and instructions, as well as built-in memory protection facilities.



sometimes individual machines were custom modified for a particular customer. IBM changed this forever, when they announced the IBM-360 family of computers in April 1964.

The IBM-360 family of computers ranged from the model 20 minicomputer (which typically had 24 KB of memory) to the model 91 supercomputer which was built for the North American missile defense system. Despite their differences, all these machines had the same user instruction set; on the smaller machines many of the more complex instructions were done in microcode rather than in hardware. For example, machines in the lower midrange did not have multiplier hardware, but the microcode implemented multiplications by repeated addition.

The machines had different operating systems. The smallest machines could not really support an operating system and were often used for specialized applications, where a program was loaded from binary punched cards at startup. The middle range used a system called DOS (not related to MS-DOS) and the higher end system was called OS/360. **These were the machines that established 32 bits as the standard for computers.**

Thus the s/360 emulator in the ROM of the IBM 5100 contained the complete s/360 instruction set, which can be taken out or scooped out as commented by Bob Dubke. This is what was needed in Titor's worldline in 2036, as there were no s/360 emulators running on computers till 2036. But that is not the case in our worldline.

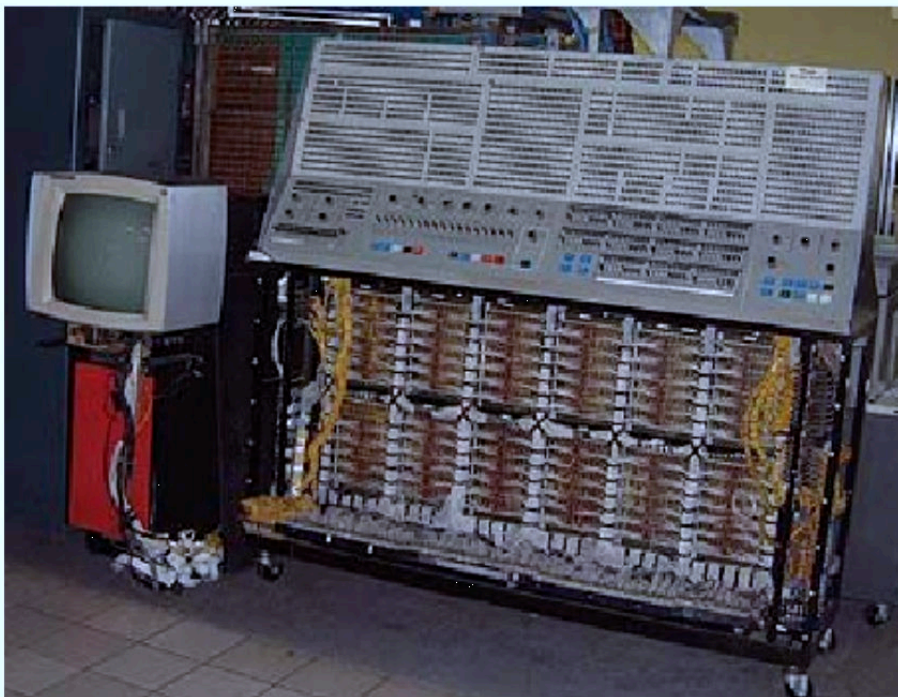


Figure 8 IBM S/360 Model 91 Console 1970

Me: “By that time, it was pretty clear that we were not going back to what we had and the division between the “cities” and the “country” was well defined. My father made a living by putting together 12-volt electrical systems...”

I believe it was a few days ago I saw a news story about potential problems with power that “might” affect the entire United States. Where do you think they’ll turn it off first when push comes to shove?

Me: “ However, there are a great many “non lethal” weapon systems in development that turn out to be quite lethal.”

Anyone for microwave popcorn?

Me: If you push a farmer too far, they stop growing food and have nothing to do but hide in the woods and shoot back.”

When YS blows up its cork, the electricity supply is going to be severely affected. That could be the reason his father did 12-volt electrical systems.

Titor: Many people die on the highways when they freeze to death trying to get to warmer weather. The government tries to keep power by instituting marshall law but all of it collapses when their efforts to bring the power back up fail. A few years later communal government system is developed after the constitution takes a few twists.

The above statements of Titor is a clear evidence that Yellowstone eruption is the cause of the civil war. After the eruption, due to the “nuclear winter” effect, the global temperature is going to reduce and during winter in the western United States in the last week of December, people would freeze to death while trying to move to a warmer weather. He said 100,000 people would die on a single event, someone calculated and said these people are in and around 600 miles of Yellowstone. The other people who survived would move towards the Eastern part of the US. 100,000 dead statement has always fascinated many people. It was interpreted with Tsunami, the people dead in Iraq war, etc. But this statement clearly fits the Yellowstone eruption theory.

In the last few months, I have had numerous extended conversations online and there are quite a few things I’ve said which can easily be checked out but haven’t. I get no pleasure out of being right when it comes to CJD disease, war in the Middle East or suffering people in far away lands. There’s nothing like the look on someone’s face when you tell them 100,000 people will be dead tomorrow. In my travels, I have discovered that most people really don’t want to know about the future because if its different than what they want it ticks them off. Actually, I don’t blame them.



Figure 15 An equivalent of Nuclear Winter

The above picture shows the equivalent of a Nuclear Winter effect. The eruption would immediately wipe out the productive capacity of the breadbasket of the USA for decades or longer and it would likely interrupt the growing season on a global scale for several years. The livestock is going to be severely affected leading to starvation. This would immediately lead the government to confiscate the properties of the civilians. The government would be forced to confiscate and ration the remaining food stocks. The government would be under tremendous pressure to feed people in the cities, else riots and violence. Those who wish to stay in cities and disguise as Cops and shoot at a crowd for their next meal would do so. Those who wish to leave the cities to rural areas to feed themselves would leave.

For the question, “Do you have an increase in tornados and earthquakes than what we have now? is the average temperature in Florida in your time about the same as it is here? or is it different?”

Titor answers, “That's one area I've decided not to talk about...sorry. The average temperature worldwide is a bit cooler.”

The nukes used in 2015 wouldn't cause a worldwide reduction in temperature. There must have been a catastrophic event that causes this worldwide reduction in temperature.

The following information is found on a website debunking John Titor.

By J. Razimus Hüghston
Space Time News Writer
Sunday, January 23rd, 2005

On Thursday, January 20th, 2005 at 6:55 PM, I sent an email to Dr. Michio Kaku, a leading theoretical quantum physicist in the world and co-founder of String Theory. I asked him the following question concerning John Titor.

I don't know if you've heard about the supposed time traveler named 'John Titor'. I believe he is fake but thousands believe he is real. I think it would help for them to hear what a real theoretical quantum physicist had to say about it. You don't have to read his entire story to know the chances of him being a hoax or not. To summarize: A guy contacted Art Bell back in 1998 and later posted on the internet back in 2001 and claimed to be a real time traveler from 2036. He claims his time machine works by using 2 mini black holes, he claims this technology was already created by CERN. Could you tell me the chances of him being for real?

J. Razimus Hüghston

On Thursday, January 20th, 2005 at 7:06 PM, I received a reply from Dr. Michio Kaku, he said the following concerning my question on John Titor.

Thanks for the e-mail. For my thoughts about time travel, see www.mkaku.org, also Parallel Worlds.

I think the person you mentioned is a fake. Mini black holes do not have the power to bend time, and CERN certainly has not produced any. The LHC will be turned on in 2 years, and there is a small chance it might create a mini black hole, but these are sub-atomic in size and energy. Time travel may be possible, but not for a Type 0 civilization. Type III civilizations, however, may have access to the Planck energy, where this possibility opens up.

Michio Kaku

The following is a summary of the first four civilization types:

Type 0 civilizations extract their energy from solar, geothermal and wind power. Most of their power is from non-renewable fossil fuel resources; oil, coal and natural gases. They are beginning to explore their solar system.

Type I civilizations are efficient in controlling all of the resources of their planet and they can control the weather. They have explored their entire solar system and are beginning

to explore their galaxy.

Type II civilizations can control all of the energy output from their suns using Dyson spheres. They are exploring other galaxies.

Type III civilizations can control the energy of a galaxy. They can extract the energy from stars and black holes. They are capable of manipulating Planck energy. This is the energy that exists at the center of black holes, where space-time is unstable. Controlling Planck energy could result in the control of worm holes leading to instantaneous travel across the universe. It is unknown what limits this type of civilization would have, they may have access to inter-dimensional travel. They may even be able to time travel.

The flawed science in the Titor story is the reason the scientific community have never taken it seriously. As Michio Kaku said at this point CERN has not been successful in creating any black holes despite their efforts. According to Michio Kaku even if mini black holes were created they would not be capable of manipulating time let alone be the core of a time travel device.

Michio Kaku wrote:

I think the person you mentioned is a fake. Mini black holes do not have the power to bend time, and CERN certainly has not produced any. The LHC will be turned on in 2 years, and there is a small chance it might create a mini black hole, but these are sub-atomic in size and energy. Time travel may be possible, but not for a Type 0 civilization. Type III civilizations, however, may have access to the Planck energy, where this possibility opens up.

Dr. Kaku says Mini black holes do not have the power to bend time. Titor says manipulating gravity made time travel possible. The microsingularity is used to create a field that manipulates gravity to travel through time. Today, the power of the micro singularity is still unknown. Once CERN smashes very fast and high energy particles together, it will be found that one of the dangerous items produced are microsingularities, according to Titor. These microsingularities are a fraction of the size of the electron. With these microsingularities, it is discovered through trial and error method that they are capable of manipulating gravity to travel through time. Though this may seem vague, clearly it cannot be deemed impossible. No one can debunk Titor on this basis of something which is yet to be discovered. But Kaku accepts the fact that time travel may be possible, but he makes confusing statements about civilizations. This is clearly irrelevant because he himself says LHC goes online in two years. That is where the basis of Time Travel begins.

Then what could be the reason the scientific community never took it seriously? There could be two possibilities:

2. The scientific community finds absolutely no flaw in the Titor story and they are secretly saving it for the future. They do not want to make the public aware of the fact that the John Titor story is completely plausible, which could lead to wild conspiracy theories among the people. Moreover the fact that Titor was vague in his statements about the cause of the civil war and his mission absolutely puzzled them and they cannot come to conclusions based on what he said. Even if one physicist says Titor's story is plausible, and if nothing happens the way Titor orchestrated the future, it would be a disgrace. So no popular person would take the risk of validating Titor.

The 2nd possibility is more plausible than the first. Because Titor gives a detailed explanation of how time traveling is achieved, it seems very much possible considering the concept of infinite worldlines.

Detailed explanation on Time Travel by Titor:

The Physics of Time Travel:

ACCELERATION = TIME DILATION

As pointed out earlier, acceleration will produce time dilation. This can be observed by the "twins paradox". As one twin stays on Earth, the other twin in his accelerating spaceship experiences a slower passing of time. When he returns to Earth, he is noticeably younger than his twin who aged normally in Earth time. This type of "time travel" (should have been proven already on this worldline) with atomic clock experiments. With sufficient power, this type of time travel will only provide practical displacement in a future direction. This type of time travel is also isolated to a single worldline. You will not meet yourself.

GRAVITY = ACCELERATION

As Einstein pointed out with his STR, the effects of gravity and acceleration are the same. Therefore, you will experience the same time travel effects in the twin paradox by being close to a large gravity source. In the atomic clock experiments mentioned above, the reason there was a difference in time was not because the clock in the plane was moving, it was because the clock in the well was closer to the center of the Earth. Constant speed is not acceleration.

LARGE GRAVITY = STATIC BLACK HOLE

The next step is to find a large gravity source to use in your time machine. Static black holes provide this type of power. As one twin approaches the event horizon or edge of the black hole, the other twin will watch him as he appears to slow down. He will notice his twin's watch run slower until it stops at the event horizon. The twin moving toward the horizon will notice none of this and see his watch running just fine. Although possible, a trip into a static black hole will not take you to another worldline and it's one-way. The



force of gravity will crush you.

ROTATING BLACK HOLE = DONUT-SHAPED SINGULARITY

Fortunately, most black holes are not static. They spin. Spinning black holes are often referred to as Kerr black holes. A Kerr black hole has two interesting properties. One, they have two event horizons and two, the singularity is not a point, it looks more like a donut. These odd properties also have a pronounced affect on the black hole's gravity. There are vectors where you can approach the singularity without being crushed by gravity.

DONUT-SHAPED SINGULARITY = PASSAGE INTO ALTERNATE WORLDLINE

Another other more interesting result of passing through a donut singularity is that you travel through time by passing into another universe or worldline. Please see Penrose diagrams for Kerr Black holes or you can examine the calculations of Frank Tipler.

So now the problem becomes....where do we find a donut-shaped singularity?

A PONDERING HAWKING = MICROSINGULARITY

Steven Hawking proposed the existence of microsingularities that were created in the big bang. They were probably about the size of a proton and disappeared over the years due to an effect of radiation evaporation. (Yes, black holes do emit energy.)

HIGH ENERGY PHYSICS = ARTIFICIAL MICROSINGULARITY

When I first started posting online a few months ago, I said that major breakthroughs in particle physics were around your corner. Soon, CERN will bring their big machine on line and they will be smashing very fast and high-energy particles together. One of the more odd and potentially dangerous items produced from this incese in energy will be microsingularities a fraction of the size of an electron.

ARTIFICIAL MICROSINGULARITY = LOCALIZED KERR FIELD

Through trial and error, and although they are quite heavy, hot and capable of putting out a great deal of energy (300 - 500 megawatts), it's discovered that these microsingularities can be electrified and captured. It is also interesting to note at this point that electrified singularities also have two event horizons. By spinning these various microsingularities, a localized Kerr field is created.

LOCALIZED KERR FIELD = TIPLER SINUSOID

By using two microsingularites in close proximity to each other, it is possible to create, manipulate and alter the Kerr fields to create a Tipler gravity sinusoid. This field can be adjusted, rotated and moved in order to simulate the movement of mass through a donut-shaped singularity and into an alternate world line. Thus, safe time travel.

That is clear explanation which is certainly possible to achieve time travel in the near future. This cannot be considered completely impossible, whatever be the debunking.

Article from BBC news:

The Large Hadron Collider (LHC) is a powerful and impossibly complicated machine that will smash particles together at super-fast speeds in a bid to unlock the secrets of the Universe.

By recreating the searing-hot conditions fractions of a second after the Big Bang, scientists hope to see new physics, discover the sought-after "God particle", uncover new dimensions and even generate mini-black holes.

When completed, two parallel tubes will carry high-energy particles called protons in opposite directions around the tunnel at close to the speed of light.

The tunnel's huge circumference provides only the slightest of bends. Nevertheless, around 5,000 superconducting magnets are needed to steer and focus the particles around the tubes.

Titor claims microsingularities are produced as a result of the LHC experiments. The secrets of the universe would be unveiled with the LHC going online in 2007.

Now with all the criticisms on the Titor story has been debunked completely, let us analyze the credibility of John Titor.

Though the evidence John cited to look into to find out his credibility has been completely explained, and criticisms debunked, they are not sufficient to establish his identity as a real Time Traveler. For instance, when asked for evidence, Titor made these statements:

I thought I would share with you things we wonder about. Your logic about me is quite correct but again I must state that I am not trying to get you or anyone else to believe or buy anything.

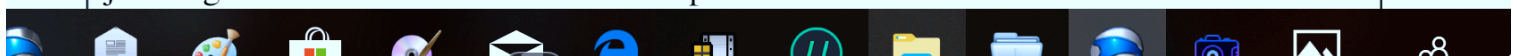
As far as evidence goes...I have however decided to try an experiment with you that may be more convincing. It involves the travel of information at faster than light. In fact, I have dropped at least three little gems like this that no one else has picked up on.

You said you are confused by the 5100 story. I will explain further. In 2036, it was discovered (or at least known after testing) that the 5100 computer was capable of reading and changing all of the legacy code written by IBM before the release of that system and still be able to create new code in APL and basic. That is the reason we need it in 2036. However, that information was never published by IBM because it would have probably destroyed a large part of their business infrastructure in the early 70s. In fact, I would bet the engineers were probably told to keep their mouth's shut.

Therefore, if I were not here now telling you this, that information would not be discovered for another 36 years. Yet, I would bet there is someone out there who can do the research and discover I am telling the truth. There must be an old IBM engineer out there someplace that worked on the 5100. They just might not have ever asked if I hadn't pointed it out.

Titor decided to do an experiment. The experiment goes like this. He gives information about the UNIX bug in 2038 and wanted to know if someone finds out that the UNIX bug poses no real threat to our worldline any more. The reason for this would be the compiler functions in the Hercules s/360 emulator. This emulator is in the ROM of IBM 5100 as explained earlier.

There must be an old IBM engineer out there someplace that worked on the 5100. They just might not have ever asked if I hadn't pointed it out.



Time Control Technologies and Methods

updated 23 Oct 2009

Key Characteristics

Technologies and Methods	Time Control		Matter Transport	Tech. Viability	Possible without Exotic Materials	Relatively Low Input Power
	Future	Past				
Quantum Tunneling	●	○	○	●	●	●
Near-Lightspeed Travel	●	○	●	●	●	○
Alcubierre Warp Drive	●	○	●	●	●	●
Faster-than-Light Travel	●	●	●	○	○	○
Time-warped Fields	●	●	●	●	●	●
Circulating Light Beams	●	●	●	●	●	●
Wormholes	●	●	●	○	●	●
Cosmic Strings	●	●	●	○	●	●
Tipler Cylinder	○	●	●	●	○	●
Casimir Effect	○	●	●	●	●	●

Do NOT support subluminal speed transport to the past

Generate special spacetime geometries permitting subluminal speed travel to the past

Notes: A solid circle indicates a key characteristic is supported by the indicated technology or method, an empty circle indicates it is not. Time Control indicates whether travel to future, past, or both are possible. Matter Transport is solid if both matter and information can be transported, empty if only information can be transported. Tech Viability is solid if the technology or method is viable with present state-of-the-art technology or within two generations. Possible Without Exotic Materials is solid if materials required are available today or within two generations. Relatively Low Input Power is solid if time control is achievable within power generation capabilities available today or within two generations.



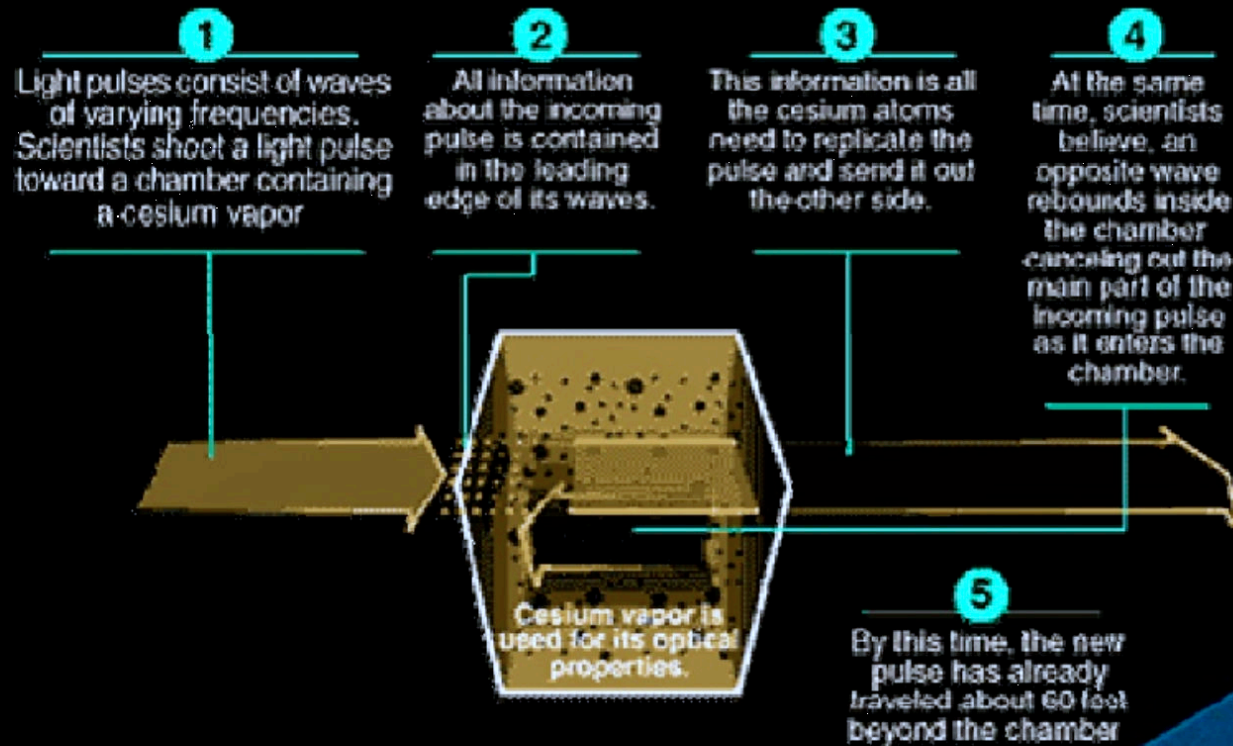


Quantum Tunneling

Quantum Tunneling: is an evanescent wave coupling effect that occurs in quantum mechanics.

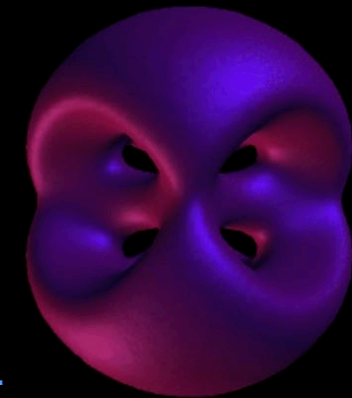
The correct wavelength combined with the proper tunneling barrier makes it possible to pass signals faster than light, backwards in time.

Scientists have succeeded in bending one of the most fundamental laws of nature—the speed of light. The experiment, which leaves Einstein's theory of *relativity* intact, is impossible to replicate under everyday circumstances.





Quantum Tunneling



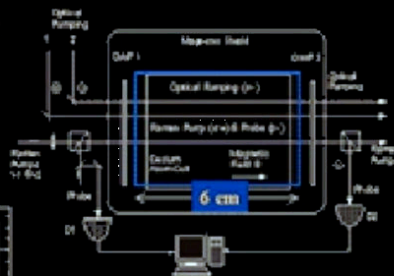
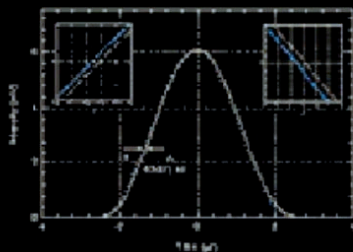
Gain-Assisted Superluminality (GAS)

Experimental Setup using Cesium Vapor

Observed Pulse Propagation

Pulse advancement: 63 nanosecond

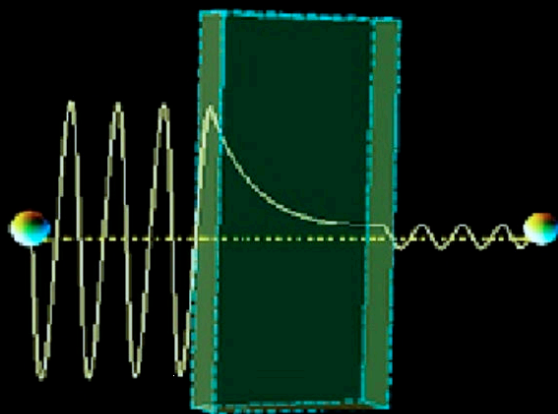
L = 19 meters over a 4 cm Cesium Cell



$$\Delta A = -1.9 \times 10^{-4}, \Delta v = 1.9 \text{ MHz}$$

$$v = 3.2 \times 10^{14} \text{ Hz}$$

$$v_g = v + \frac{dv}{dA} = -330 (\pm 30)$$



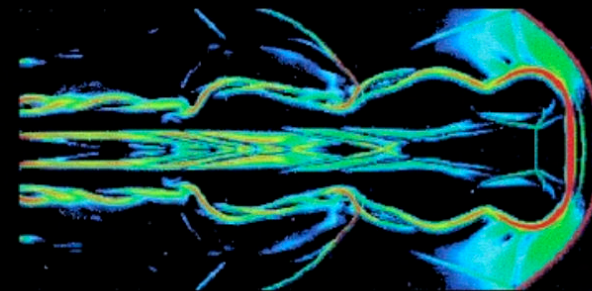
- Effect: QUANTUM
- Speed: SUBLUMINAL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✗ Matter Transport: NO
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES



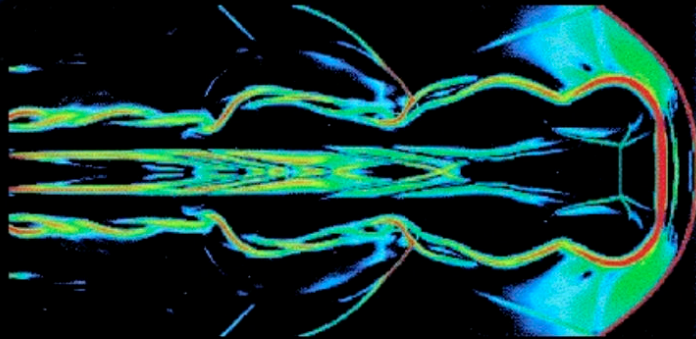
Near-Lightspeed Travel



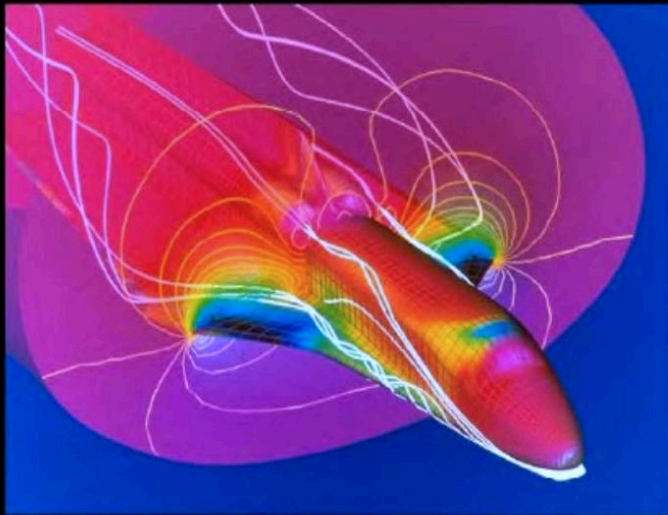
Near-Lightspeed Travel: has the ability to significantly dilate time, sending an accelerating traveler rapidly forward in time relative to those left behind before her travel. The closer to the speed of light, the further into the future the travel.



Near-Lightspeed Travel



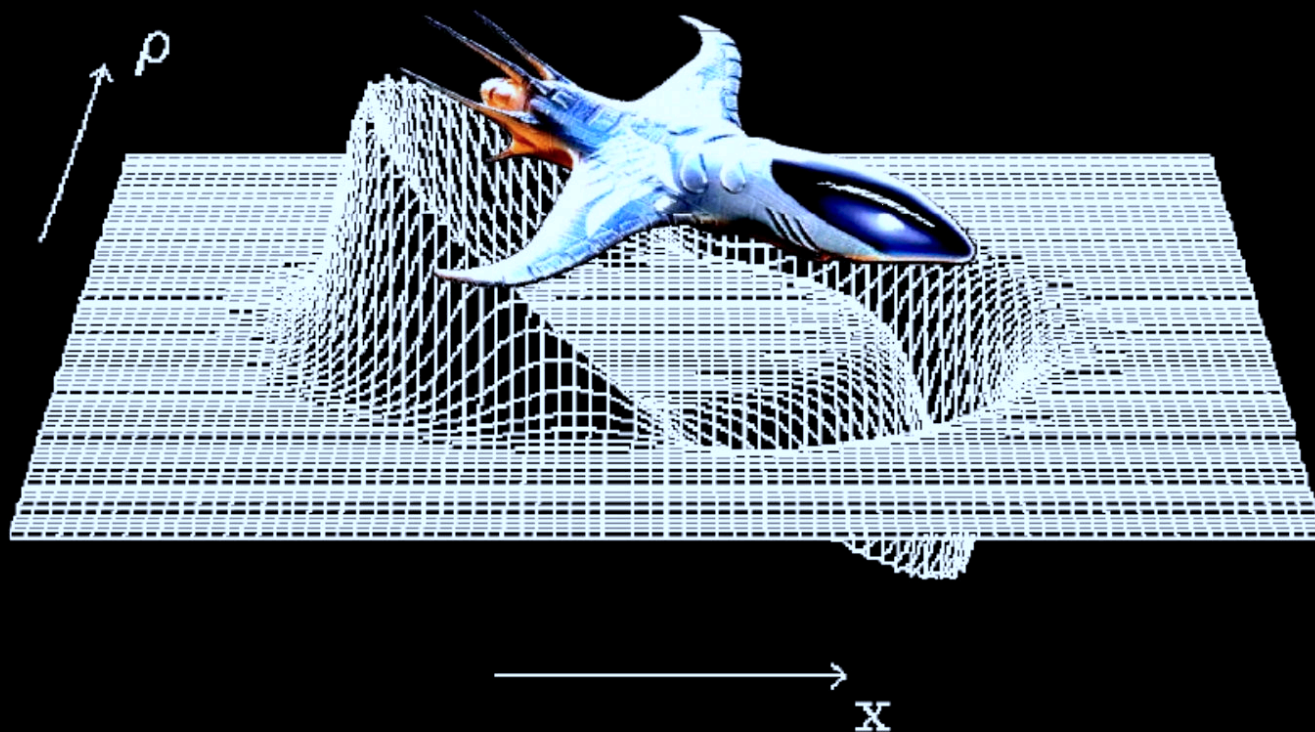
Computer simulation of a jet of photons and electrons traveling at 98 percent of light speed ramming and mixing with interstellar material



- Effect: SPECIAL RELATIVISTIC
- Speed: NEAR/FTL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✗ Low Input Power: NO

Alcubierre Warp Drive

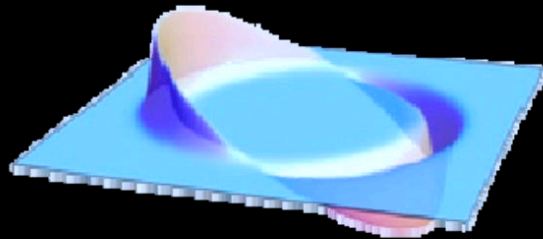
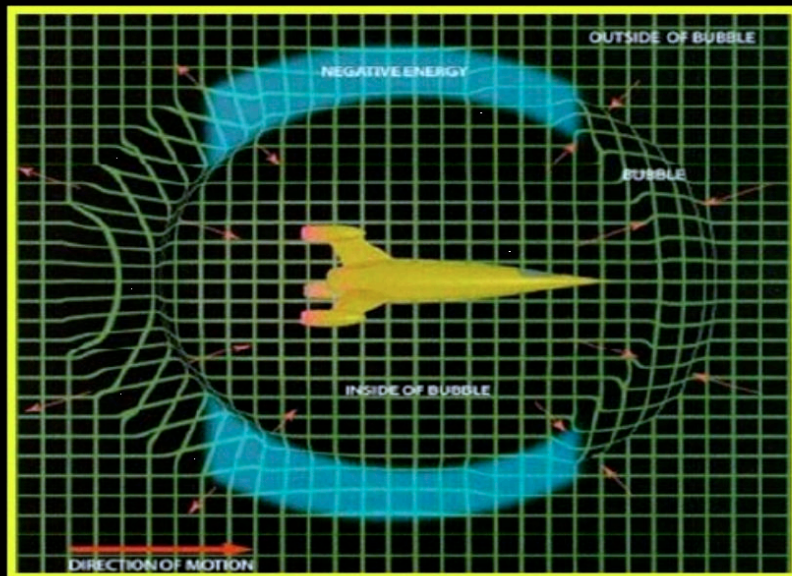
$$\psi = -\alpha \text{Tr}(K)$$



Alcubierre Warp Drive: stretches spacetime in a wave causing the fabric of space ahead of a spacecraft to contract and the space behind it to expand.

The ship can ride the wave to accelerate to high speeds and time travel.

Alcubierre Warp Drive



- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

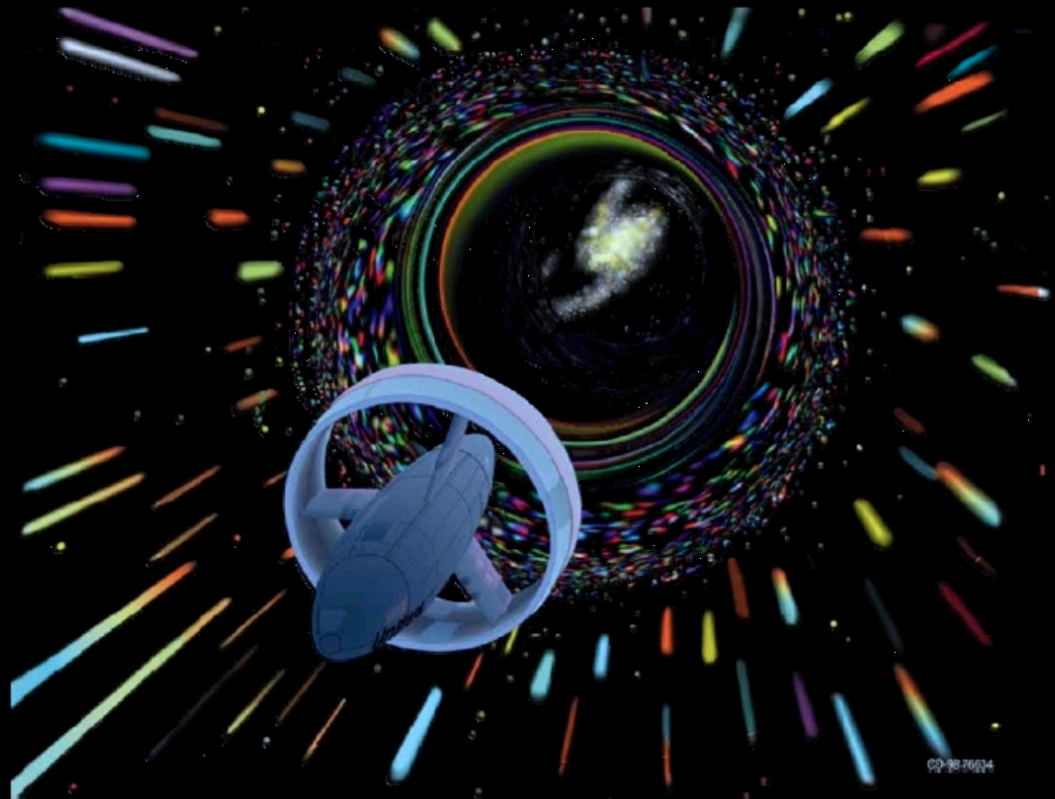


Faster-than-Light Travel

Faster-than-Light Travel: is a controversial subject.

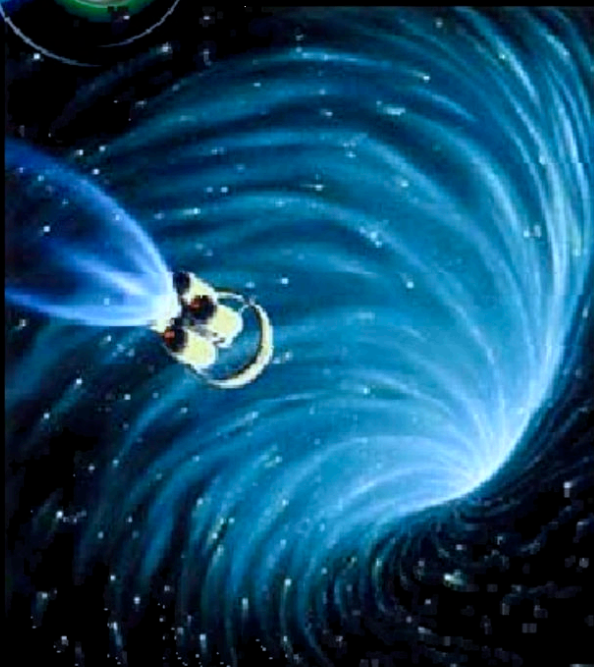
According to special relativity anything that could travel faster-than-light would move backward in time.

As the same time, special relativity states that this would require infinite energy.

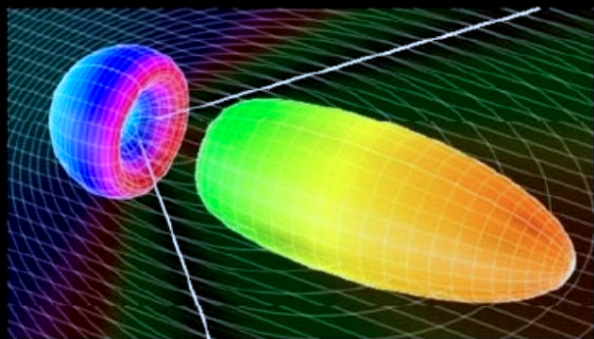




Faster-than-Light Travel

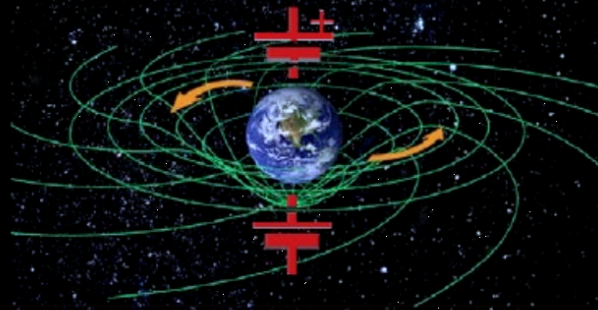


Computer simulation of a tachyon, a theoretical particle believed to travel faster than light.



- Effect: SPECIAL RELATIVISTIC
- Speed: NEAR/FTL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✗ Technically Viable: NO
- ✗ Possible w/o Exotic Materials: NO
- ✗ Low Input Power: NO

Time-warped Fields (TwF)



Time-warped Field Technology accesses the potential energy differences between two areas of twisted spacetime created by inertial frame-dragging.

Guide Star
IM Pegasi
(HR 8703)

Frame-dragging Precession
39 milliarcseconds/year
(0.000011 degrees/year)

Geodetic Precession
6,606 milliarcseconds/year
(0.0018 degrees/year)

$$\Omega = \underbrace{\frac{3GM}{2c^2 R^3} (R \times v)}_{\text{Geodetic Precession}} + \underbrace{\frac{GI}{c^2 R^3} \left[\frac{3R}{R^2} (\omega \cdot R) - \omega \right]}_{\text{Frame-dragging Precession}}$$

642 kilometers
(~400 miles)

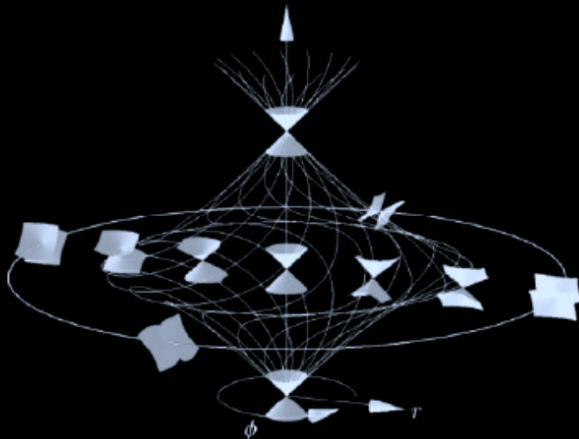
Time-warped Fields: use energy within curvatures of spacetime around a rotating mass or energy field to generate containable and controllable fields of closed-timelike curves that can move matter and information forward or backward in time.



Time-warped Fields (TwF)



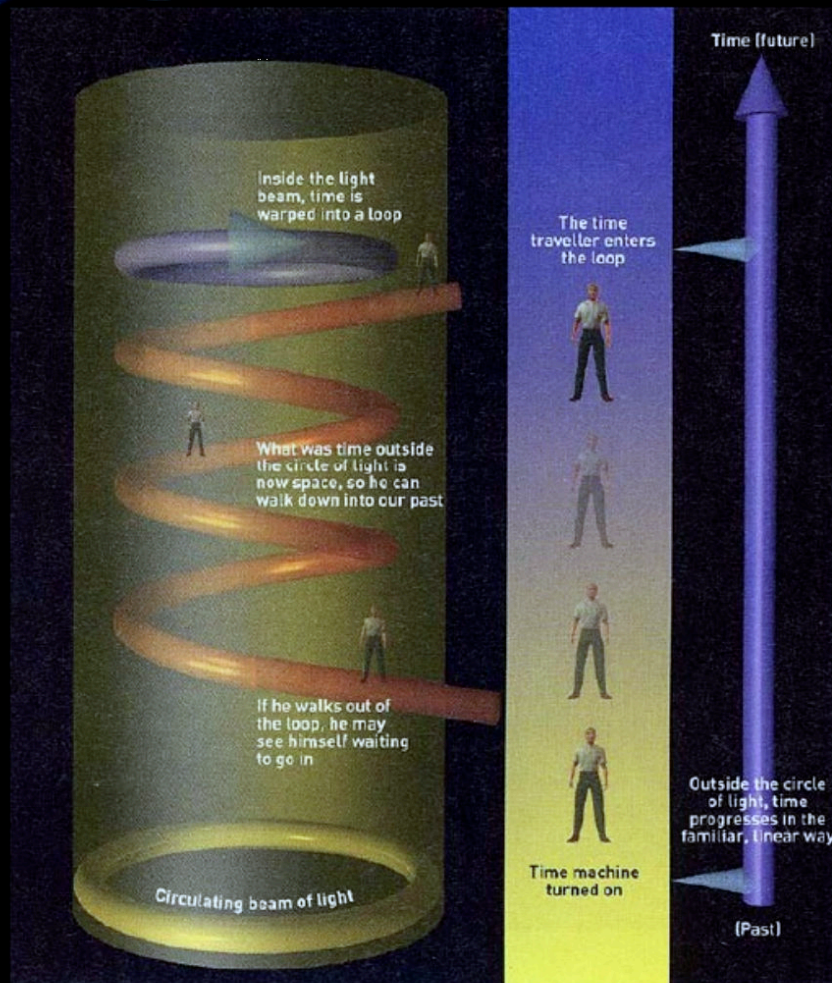
Energy pattern in coupling between two different regions in spacetime (above).
Illustration of generated field of closed-timelike curves at the base of a time reactor (below).



- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES



Circulating Light Beams



Gamma/Magnetic Fields: can be used to create circulating light beams to warp or loop time.

The approach can twist space that also causes time to be twisted, meaning you could theoretically walk through time as you walk through space.





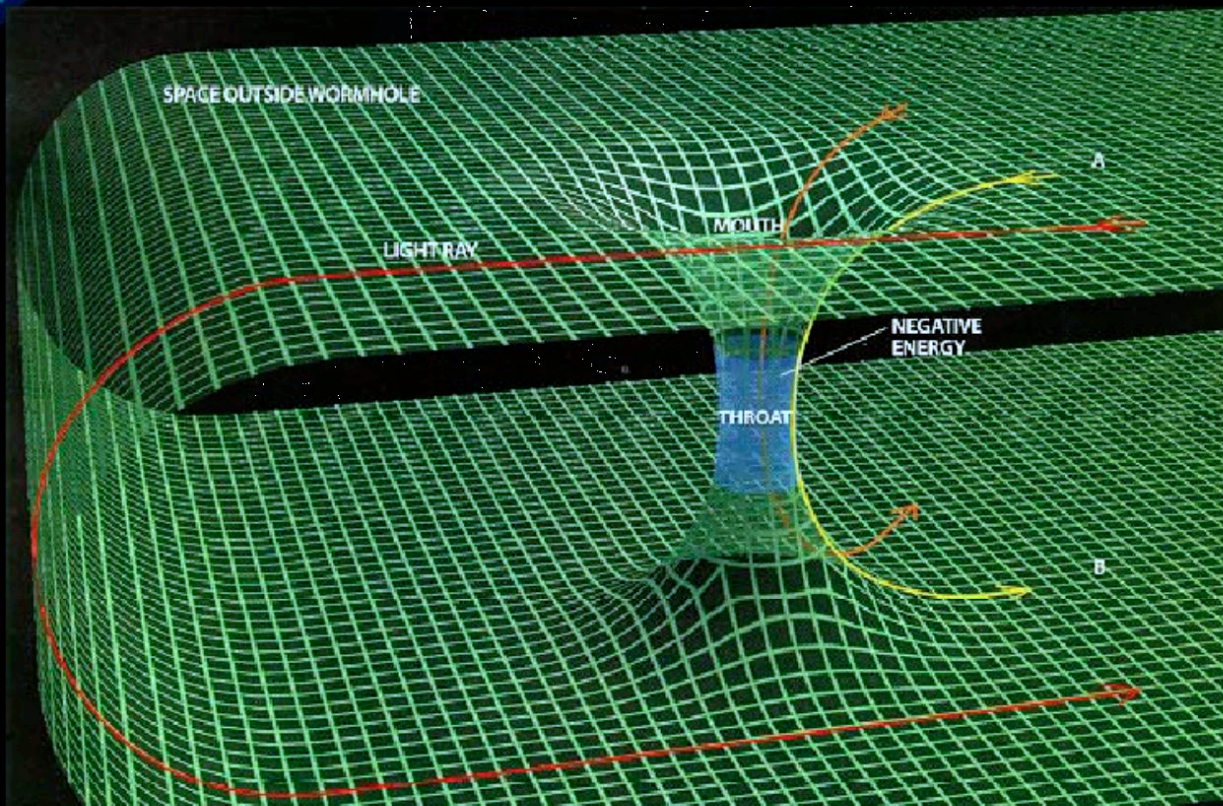
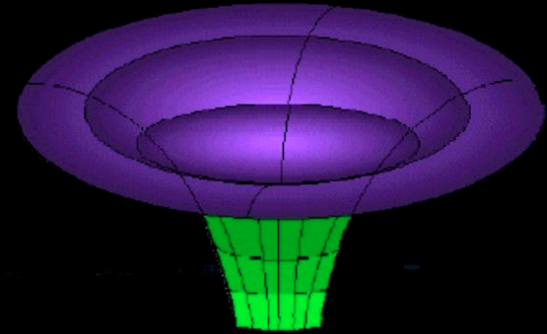
Circulating Light Beams



- Effect: SPECIAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES



Wormholes

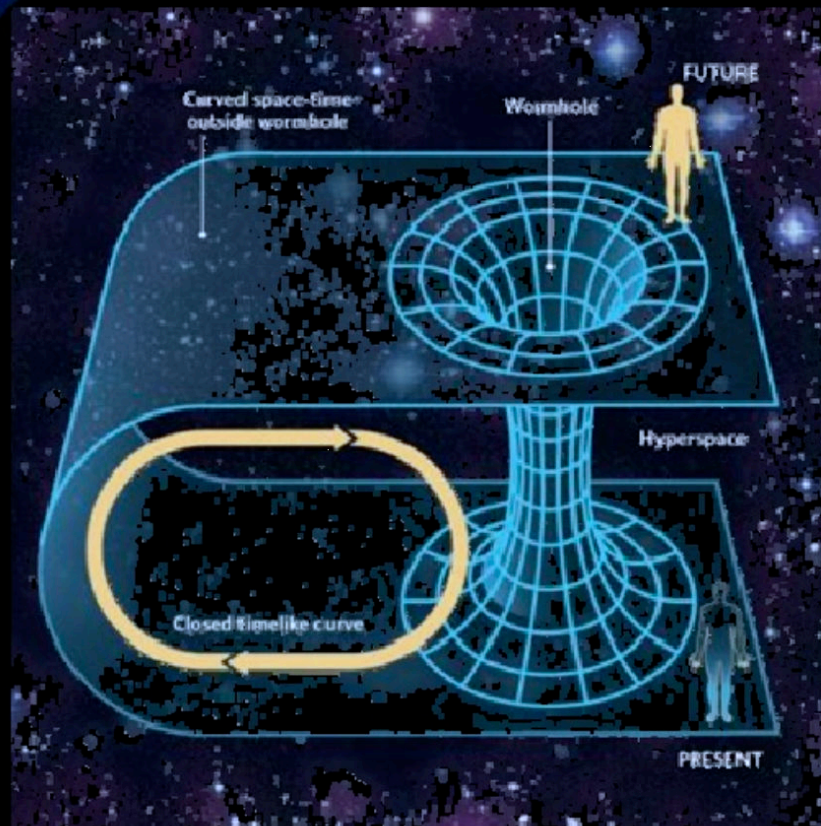


Wormholes: are hypothetical areas of warped spacetime with great energy that can create tunnels through spacetime.

If traversable would allow a traveler to quickly move through great distances in space and also travel through time.



Wormholes



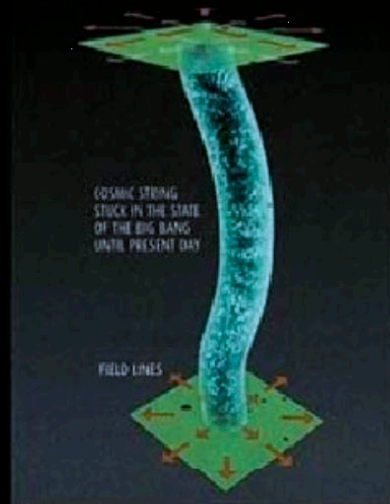
- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✗ Technically Viable: NO
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES



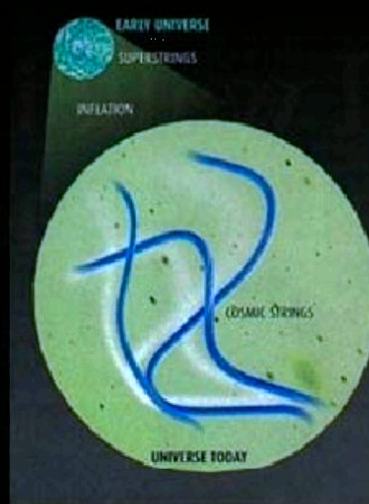
Cosmic Strings

Cosmic strings are predicted to have formed when ancient force fields were frozen in the fabric of spacetime, by inflation of superstrings, or by collision.

1. AN ANCIENT FORCE FIELD FREEZES



2. A MINUSCULE SUPERSTRING INFLATES

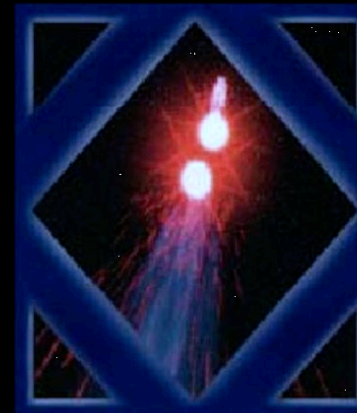


3. BRANES COLLIDE

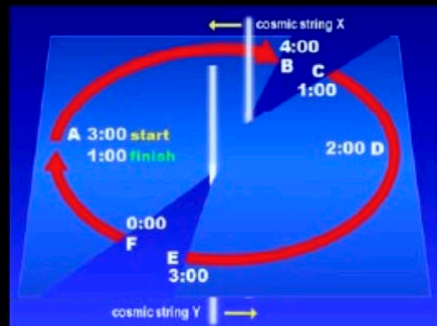
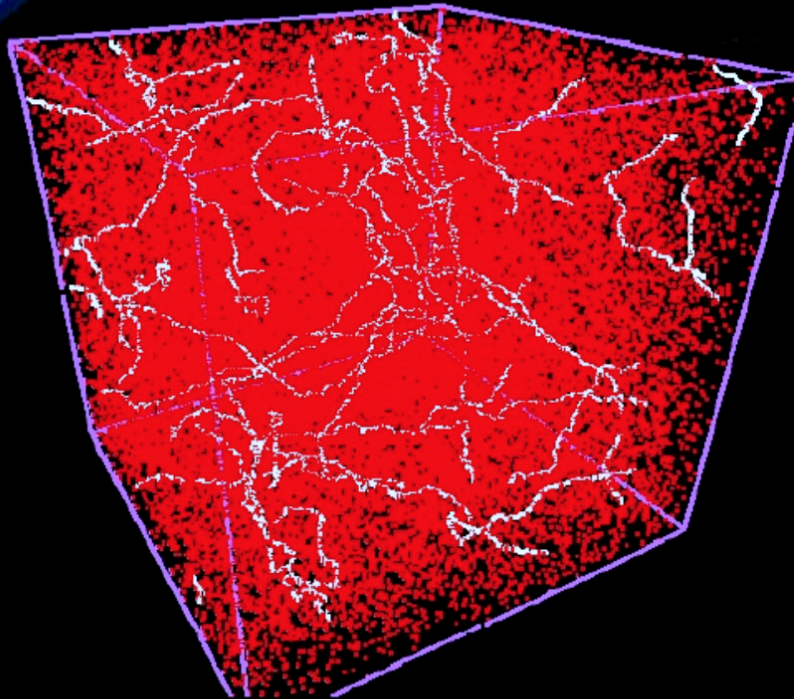


Cosmic Strings: are a hypothetical 1-dimensional (spatially) topological defect in the fabric of spacetime left over from the formation of the universe.

Interaction could create fields of closed timelike curves permitting backwards time travel.



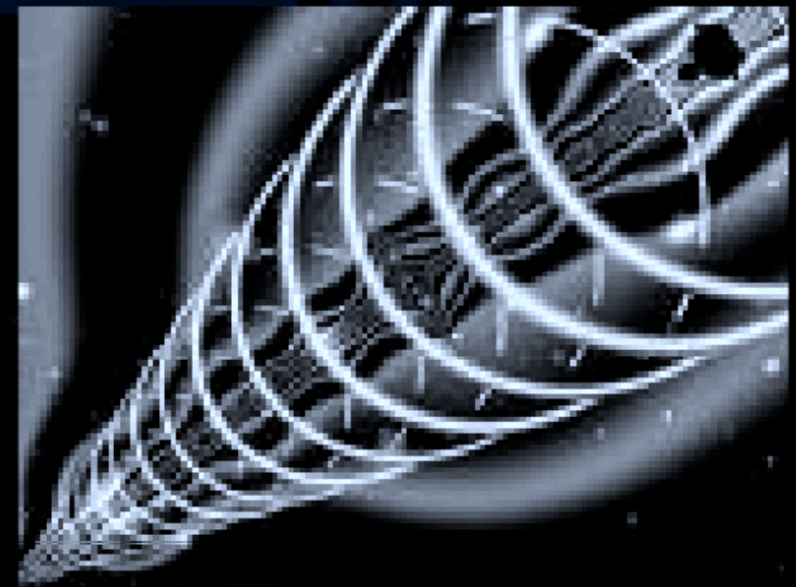
Cosmic Strings



- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✔ Time Travel to Future: YES
- ✔ Time Travel to Past: YES
- ✔ Matter Transport: YES
- ✔ Information Transport: YES
- ✘ Technically Viable: NO
- ✔ Possible w/o Exotic Materials: YES
- ✔ Low Input Power: YES



Tipler Cylinder

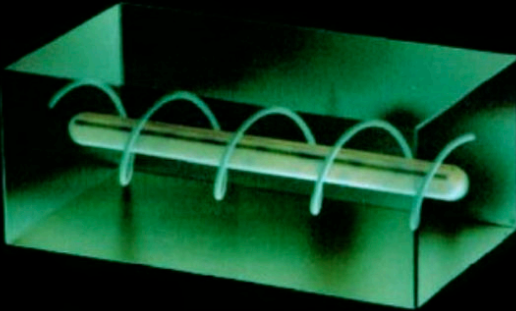


Tipler Cylinder: uses a massive and long cylinder spinning around its longitudinal axis.

The rotation creates a frame-dragging effect and fields of closed timelike curves traversable in a way to achieve subluminal time travel to the past.



Tipler Cylinder



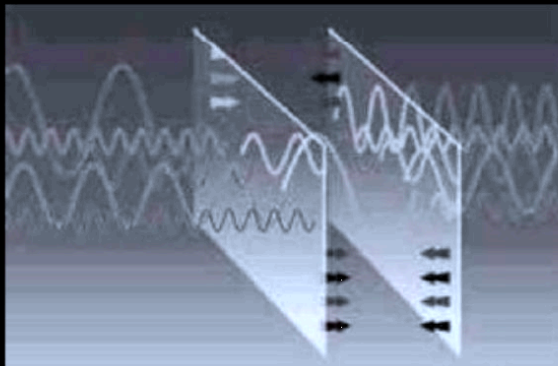
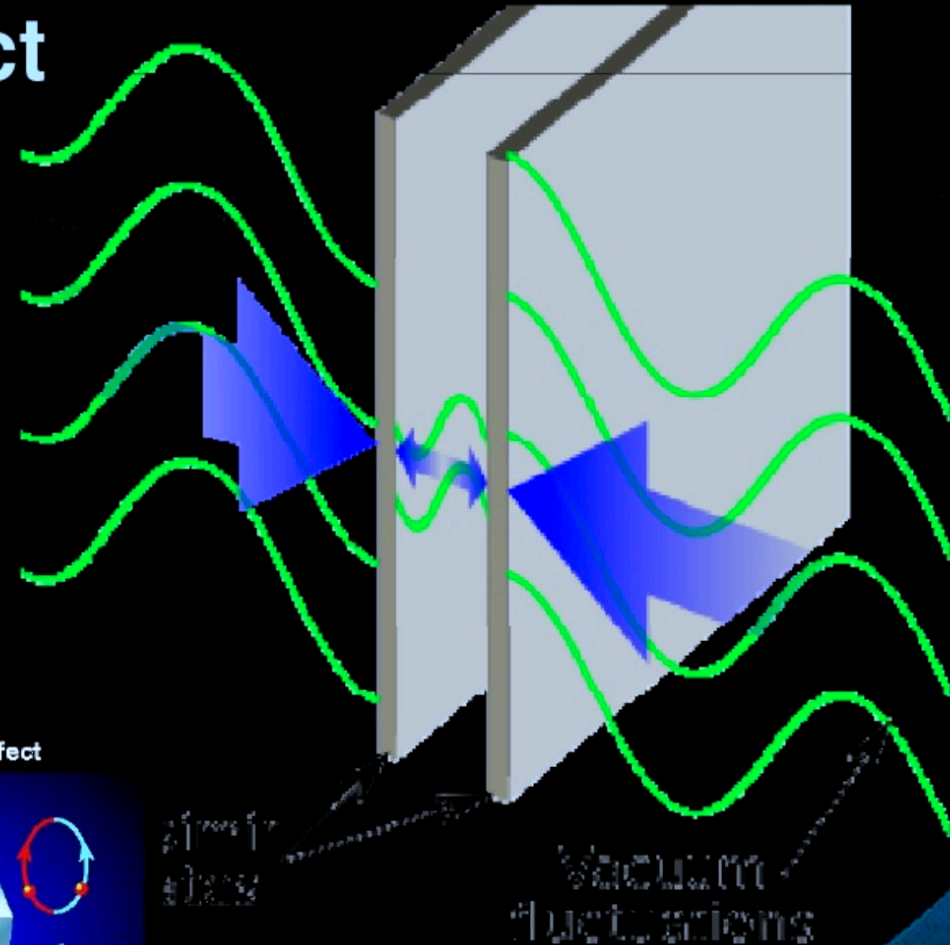
- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ❌ Time Travel to Future: NO
- ✅ Time Travel to Past: YES
- ✅ Matter Transport: YES
- ✅ Information Transport: YES
- ✅ Technically Viable: YES
- ❌ Possible w/o Exotic Materials: NO
- ✅ Low Input Power: YES



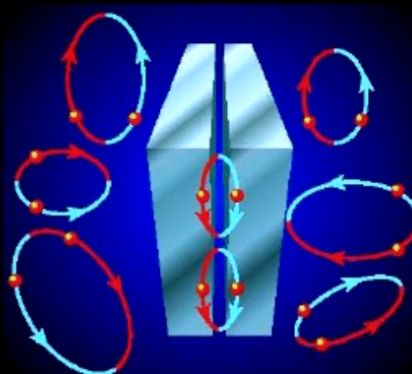
Casimir Effect

Casimir Effect: a physical force arising from a quantized field, for example between two uncharged plates.

This can produce a locally mass-negative region of space-time that could stabilize a wormhole to allow faster than light travel.



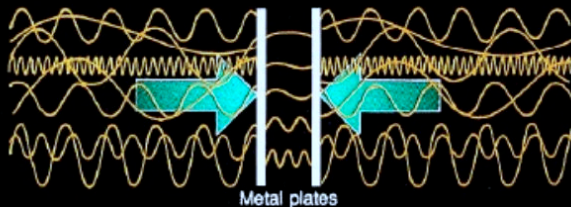
The Casimir effect



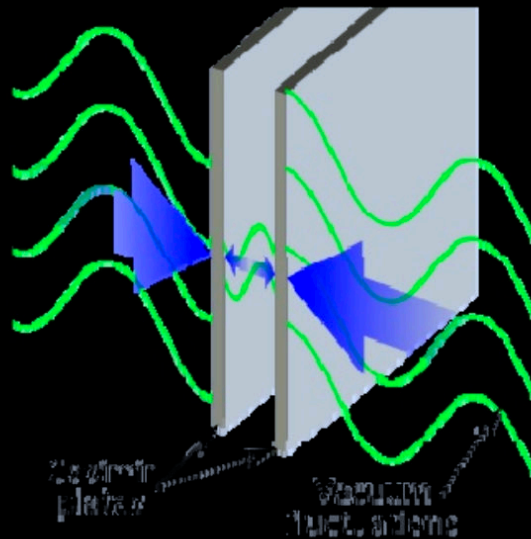
Only virtual pairs of certain wavelengths can exist between the plates



Casimir Effect



The Casimir effect: an imbalance in the quantum fluctuations of empty space can push two metal plates together



- Effect: QUANTUM ELECTRODYNAMIC FORCE
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ❌ Time Travel to Future: NO
- ✅ Time Travel to Past: YES
- ✅ Matter Transport: YES
- ✅ Information Transport: YES
- ✅ Technically Viable: YES
- ✅ Possible w/o Exotic Materials: YES
- ✅ Low Input Power: YES

This gives us a concept of oneness or unity and a concept of zero

Past

Negative - symmetry

Einstein's curvature of spacetime

Energy and momentum slows the rate that time flows forming a curvature of spacetime relative to its own energy within each individual reference frame.

$$e^{i\pi} + 1 = 0 \rightarrow e^x$$

Euler Identity

Ψ square of probability

Quantum Atom Theory

$$(E = mc^2)^\infty$$

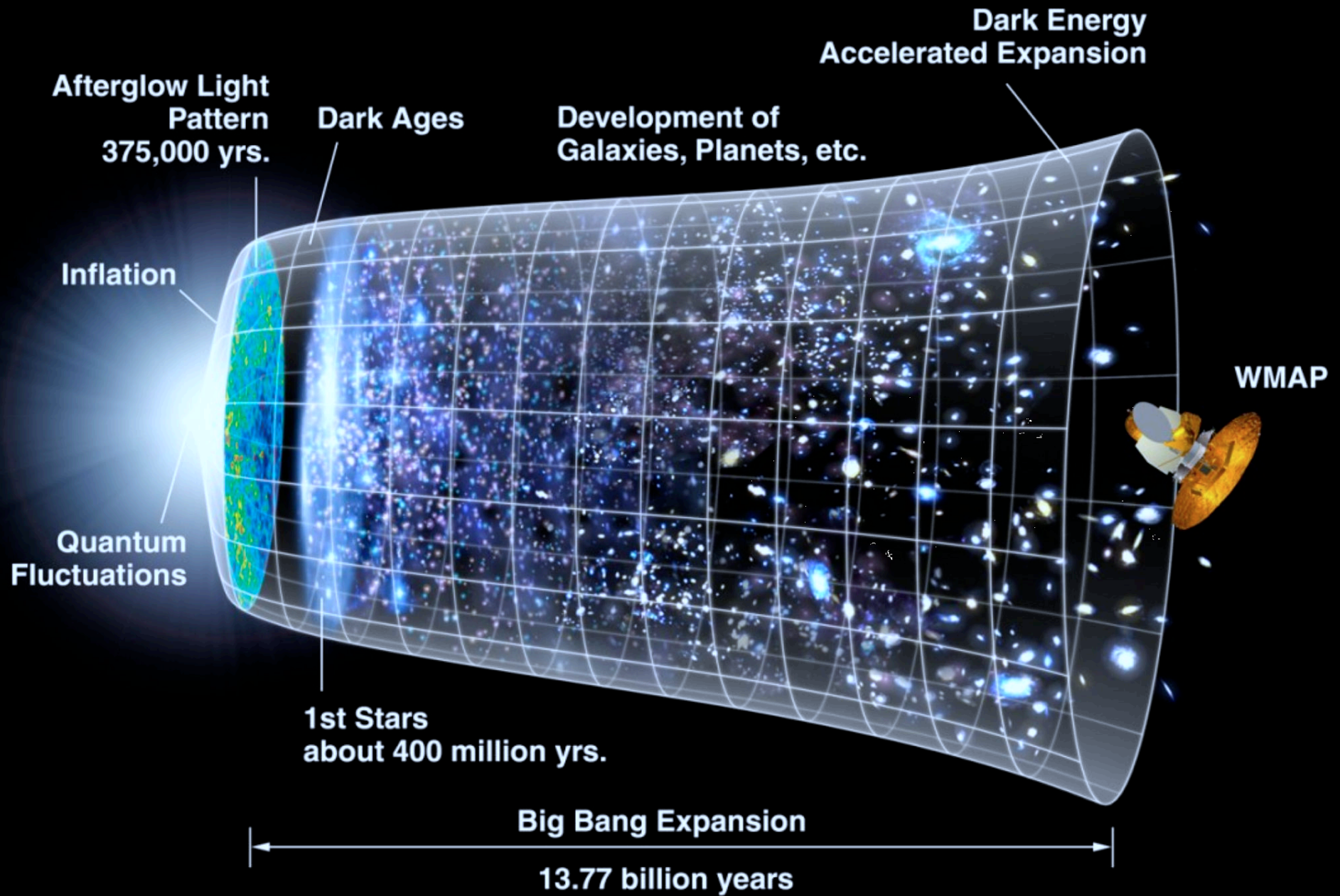
$$K = 1/4\pi \epsilon_0$$

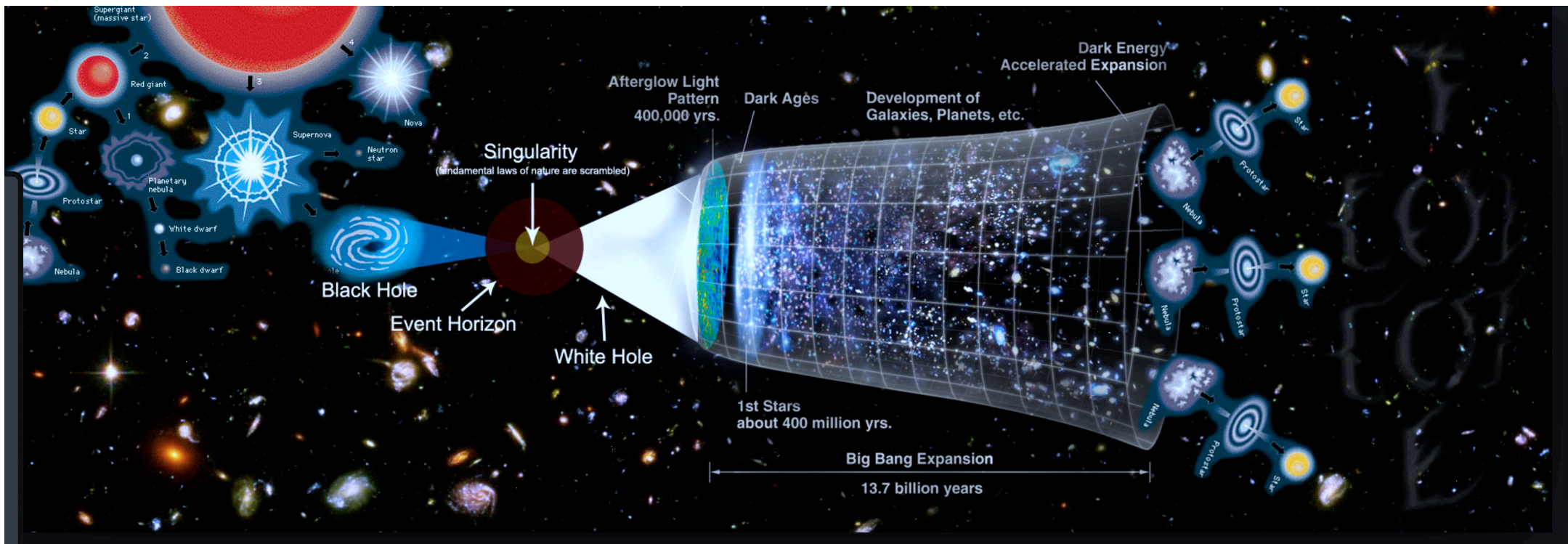
Positive + symmetry

Future

The Arrow of Time
 $\Delta E \Delta t \geq h/2\pi$

The Uncertainty Principle
 $\Delta x \Delta p \geq h/4\pi$ is the same uncertainty we have with any future event.





Different types of multiverse

LEVEL ONE: An extension

Our views into the universe are limited by the age of the universe. We cannot see further than the time light has had to travel to us, which when you take the expansion of the universe into account, comes to 42 billion light years.

But this multiverse theory suggests that, beyond this distance, the universe continues into infinity. And this would mean that eventually, by chance,

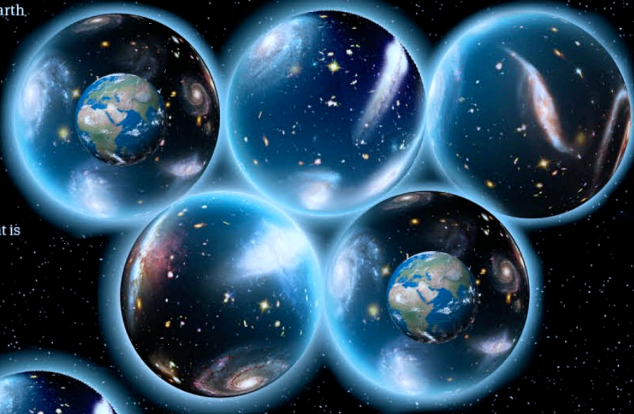
everything would start to repeat itself – even Earth. It will be impossible to ever know what is beyond our observable universe though, without finding some fanciful way to travel faster than light. Until then, we may never know what is beyond our vision.



LEVEL TWO: The bubble universe

This theory proposes that there are many 'bubble' universes living alongside each other. The key behind the theory is cosmic inflation, which is the period of rapid expansion the universe went through in its first trillionth of a trillionth of a second. This ultimately gave rise to the universe as we know it.

According to this theory, different regions of space expanded at different rates, forming their own 'bubble' regions alongside ours. In theory, there could be an infinite number of these bubble universes alongside ours, with a contentious version suggesting each has its own laws of physics.



LEVEL THREE: Many worlds

The many-worlds theory relies on quantum mechanics. The quantum world is odd, in that things such as photons can appear to be in two places, or states, at once. It is only when we observe the photon that its state is decided.

In this theory, though, both states exist. And, in fact, this is happening constantly for

everything around us, at all times. Each time there is a 'split', a new universe is created, giving rise to an infinite number of universes. This is probably the closest theory to the idea of 'parallel universes' where one could envision jumping into a nearby universe. It's pretty unlikely that'll ever be possible, though.

LEVEL FOUR: Mathematical universe

This theory is probably the one that is most widely derided. Max Tegmark goes into detail in his doorstep of a book *Our Mathematical Universe*, but in essence, it suggests that our universe, and all other universes, are nothing but mathematical constructs. We are quite simply lumps of 'mathematics manifested as a consciousness that can

perceive this seemingly 'real' world.

It is described by some as the 'ultimate ensemble' and, owing to its nature being everything broken down into mathematics, there cannot be another broader multiverse theory beyond it. As you might have guessed, it's a bit controversial.







**14th Century fresco of Krishna
City Palace in Udaipur India**



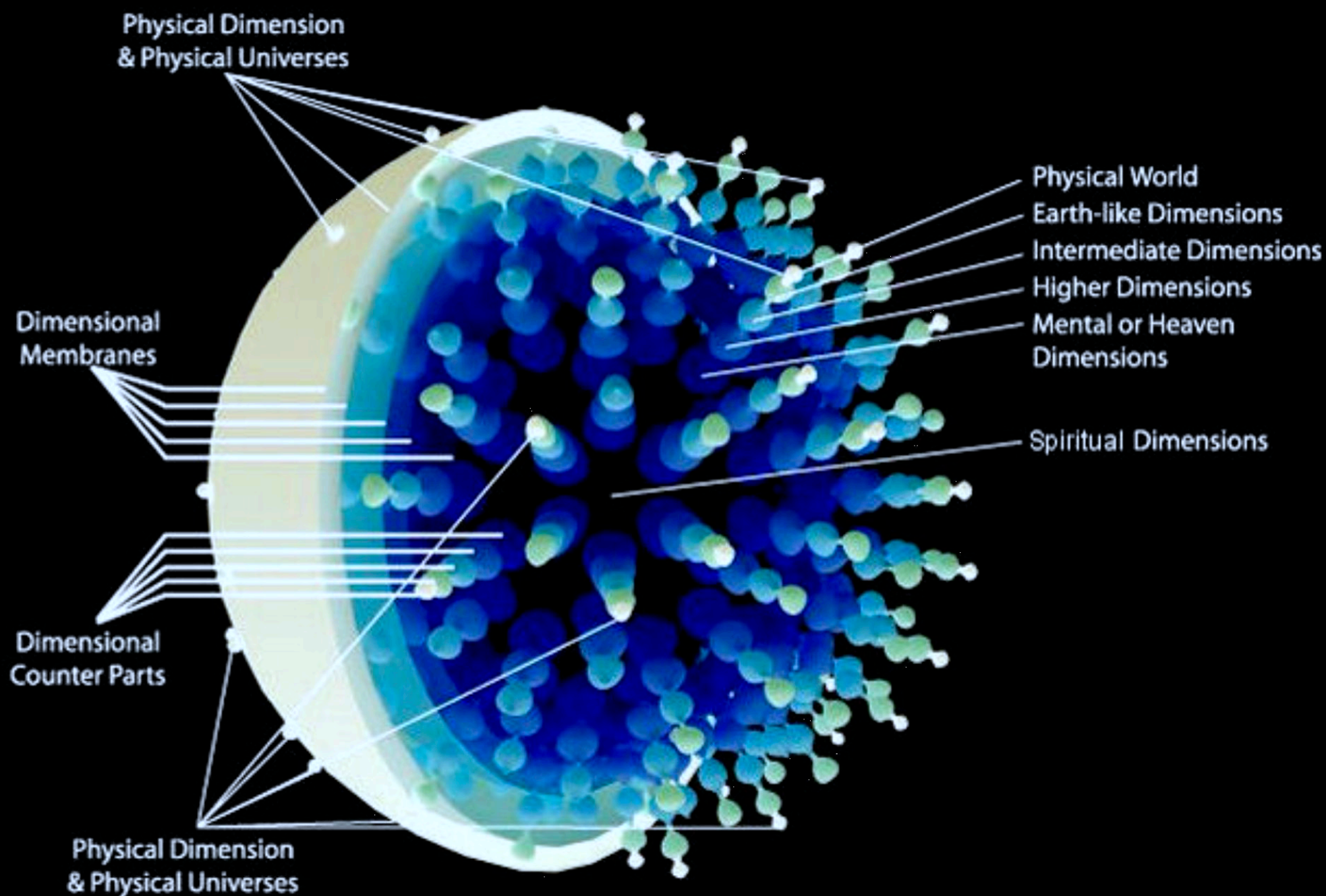
Modern day Indian depiction of Krishna

The Sanskrit word in its origin language Krisna is primarily an adjective meaning "black" or "dark",[1] sometimes it is also translated as "all attractive".[9] It is cognate with Slavic *černъ* "black".

As a feminine noun, Krisna is used in the meaning "night, blackness, darkness"

Multiple Universes shaped by external forces





A 5th dimensional perspective

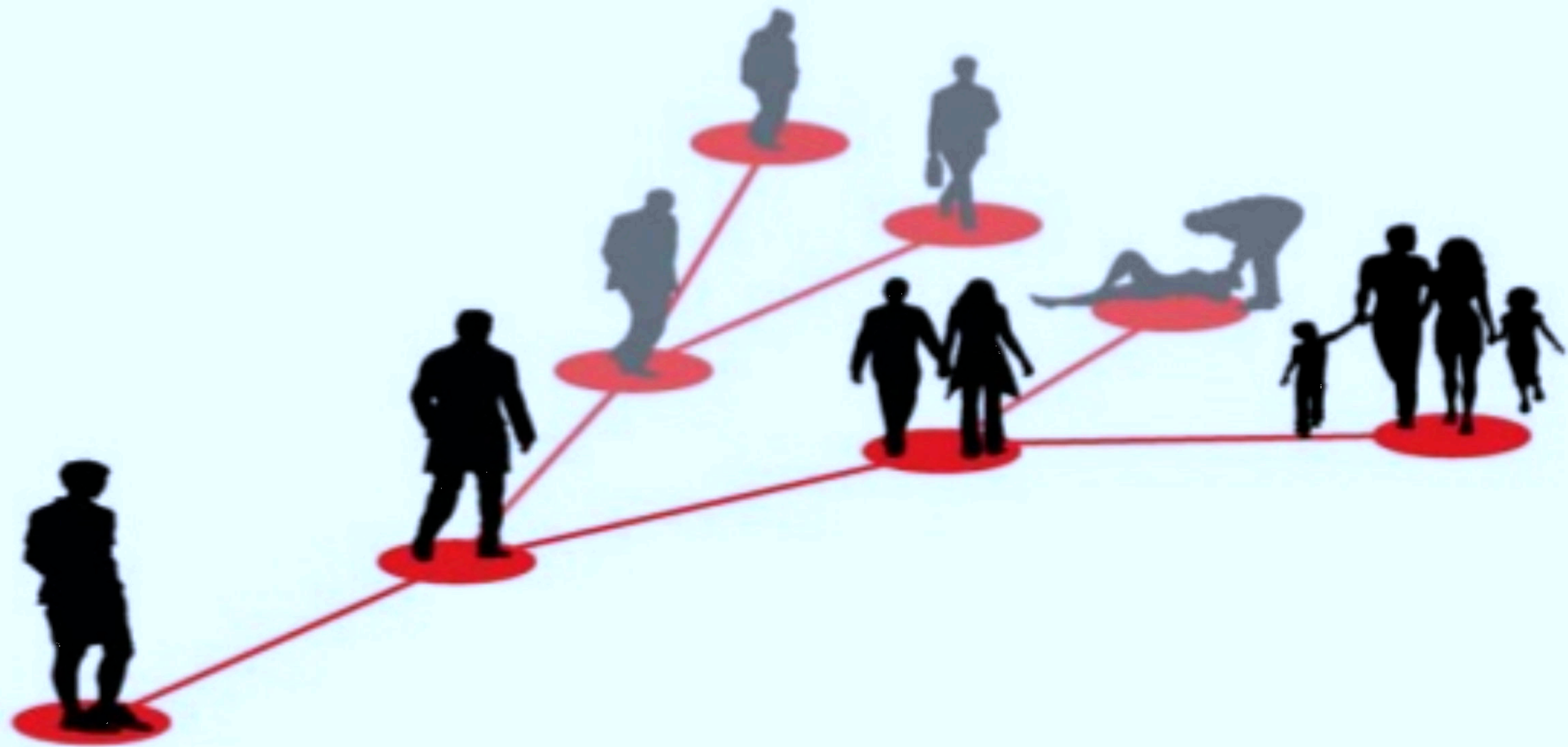
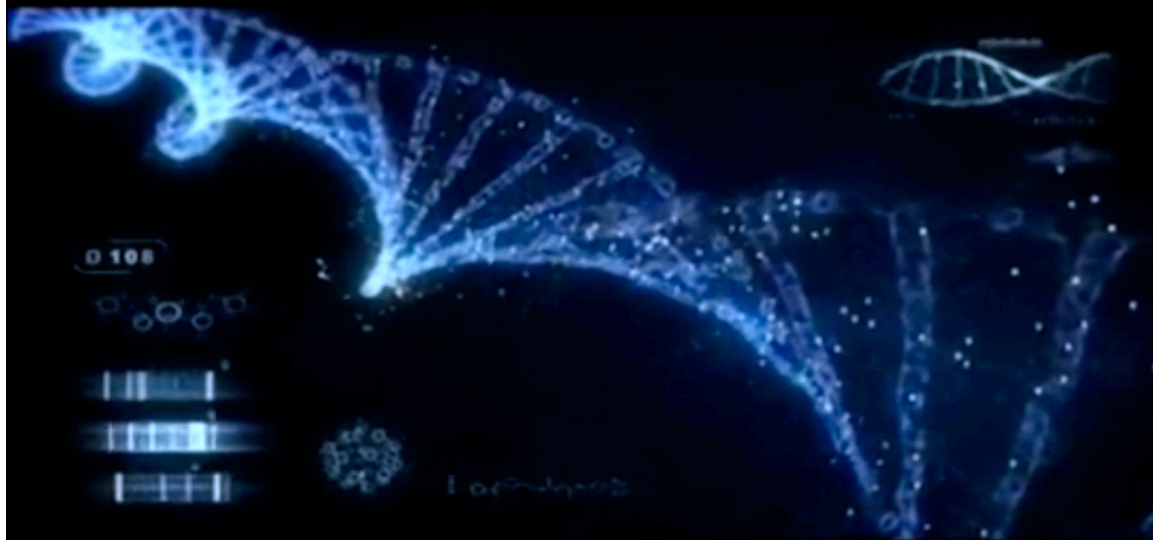


Illustration of diverging timelines

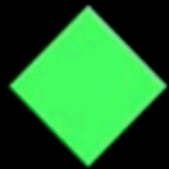


Group 1
Strong elevated feelings (love)
for two minutes while holding vials

zero
difference

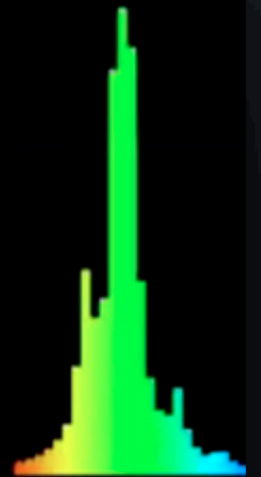


up to 25%
change in DNA



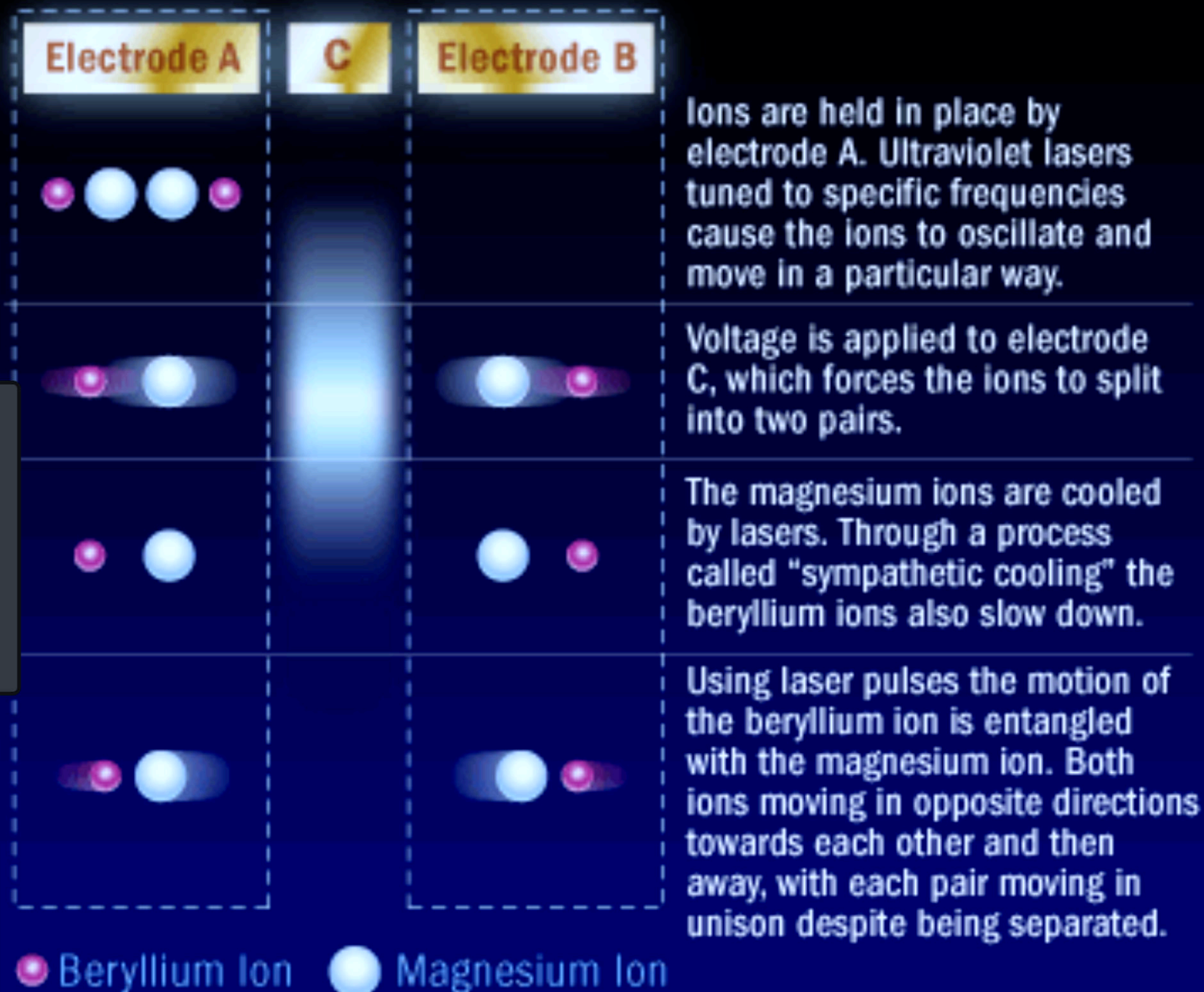
Group 3
Intention to change DNA

zero
difference



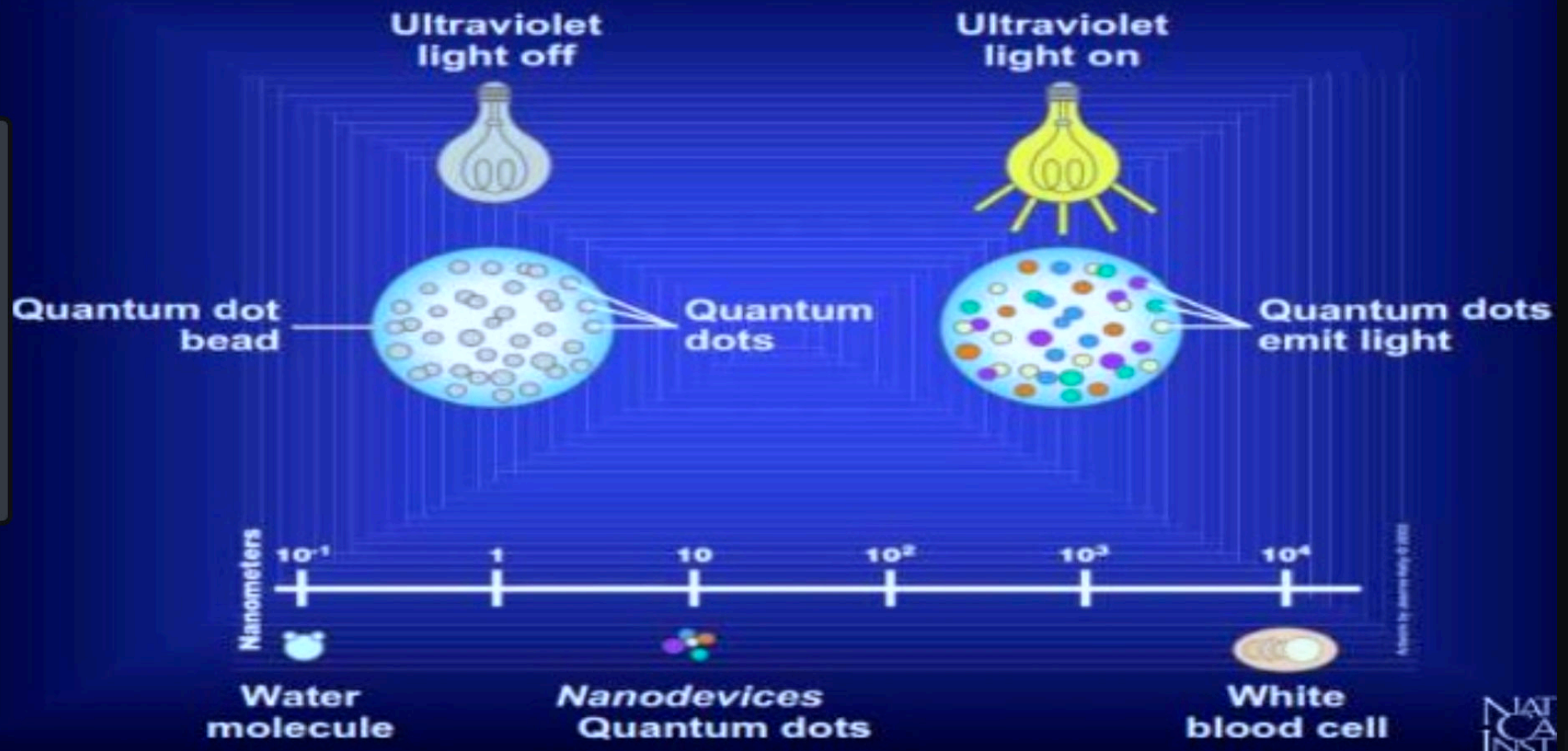
NIST Entanglement Experiment

©2010 HowStuffWorks



Quantum Dots

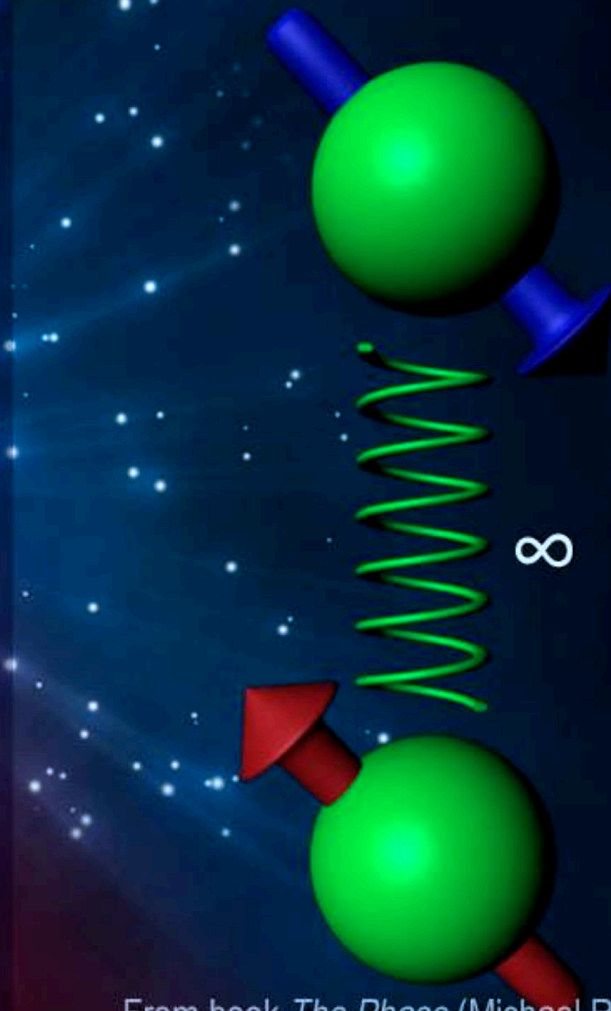
Another minuscule molecule that will be used to detect cancer is a quantum dot. Quantum dots are tiny crystals that glow when they are stimulated by ultraviolet light.



QUANTUM MECHANICS IN 5 MINUTES

6/10: Quantum entanglement

In 1982, Alain Aspect sent two simultaneously created photons to opposite-direction spin (polarization) detectors. It turned out that measuring the spin of one photon instantly affects that of the other photon, which will be the opposite. This proved the possibility of the quantum entanglement of elementary particles and quantum teleportation. In 2008, scientists were able to measure the state of quantum-entangled photons at a distance of about 90 miles, and interaction between them was still instantaneous, as if they were at the same place or there was no distance. It is believed that if such quantum-entangled photons appear at opposite ends of the Universe, then interaction between them will still be instantaneous, even though it would take tens of billions of years to cover that distance at the speed of light.



From book *The Phase* (Michael Raduga, 2015)
WWW.OBE4U.COM

Understanding Quantum Volume

The volume of a cube is determined by its qubit count and error rate. The greater the volume, the more powerful the machine.



25

10,000

40,000

The Quantum Volume Matrix

Error Rate (Y-AXIS)

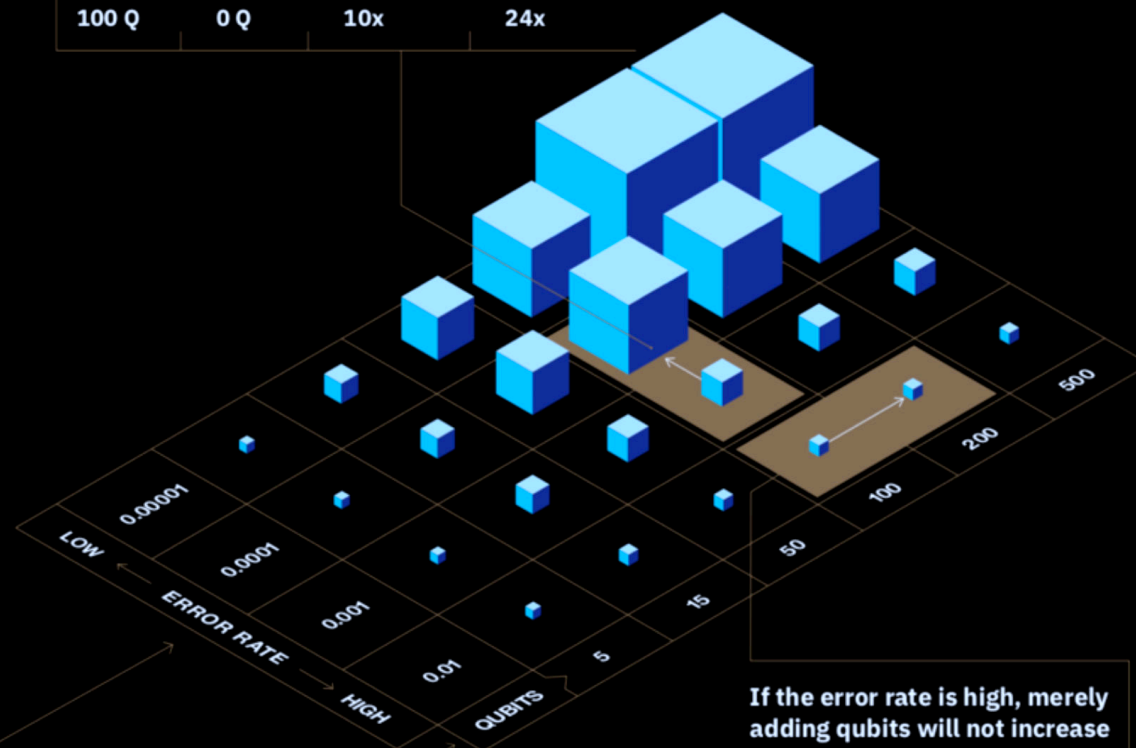
An expression of how well the device can implement arbitrary pairwise interactions between qubits

Qubits (X-AXIS)

The number of qubits active in the system

Improving the error rate can increase quantum volume even when the number of qubits remains the same. For example:

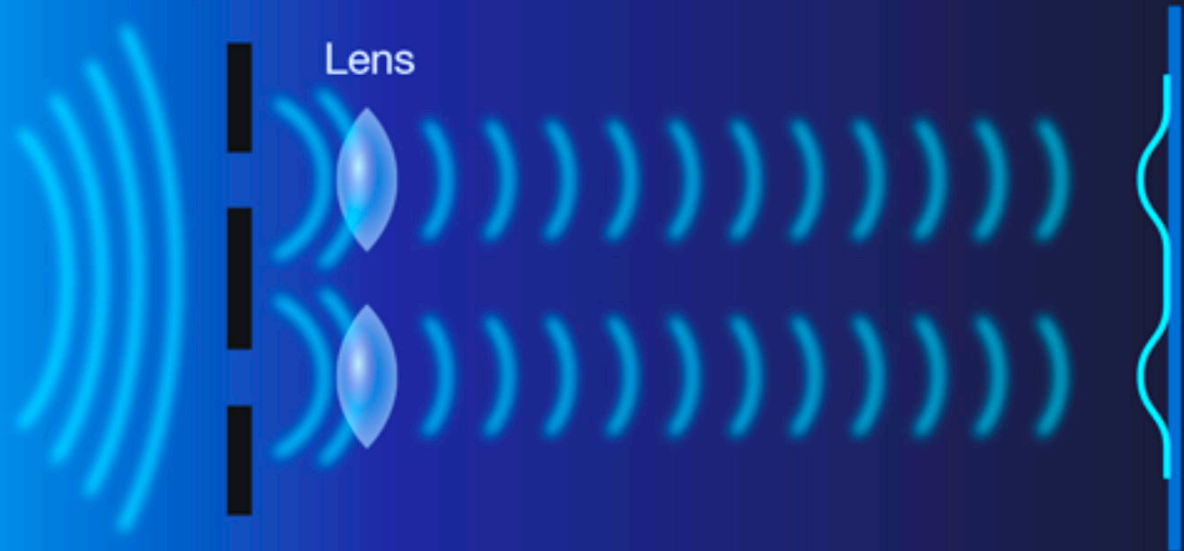
QUBITS EXISTING	→	QUBITS ADDED	→	ERROR RATE DECREASE	→	QUANTUM VOLUME INCREASE
100 Q		0 Q		10x		24x



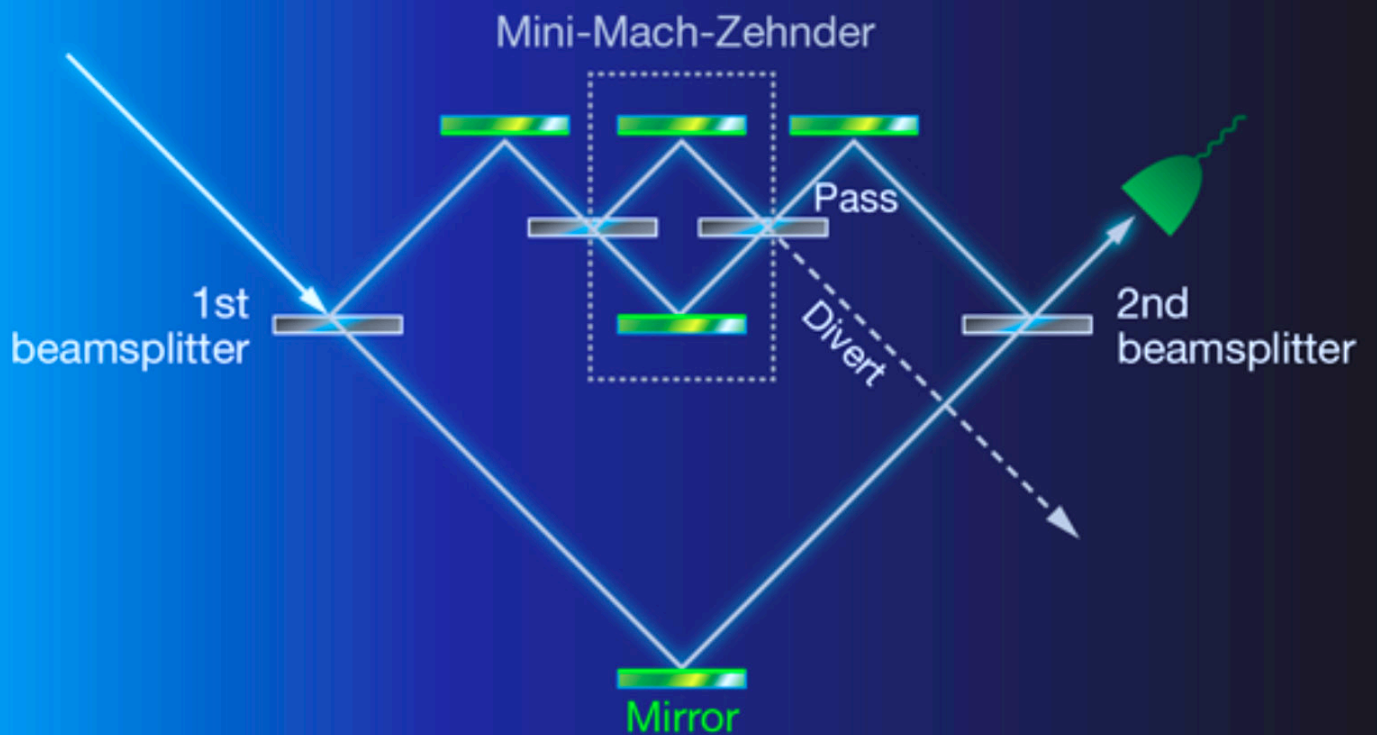
If the error rate is high, merely adding qubits will not increase quantum volume.

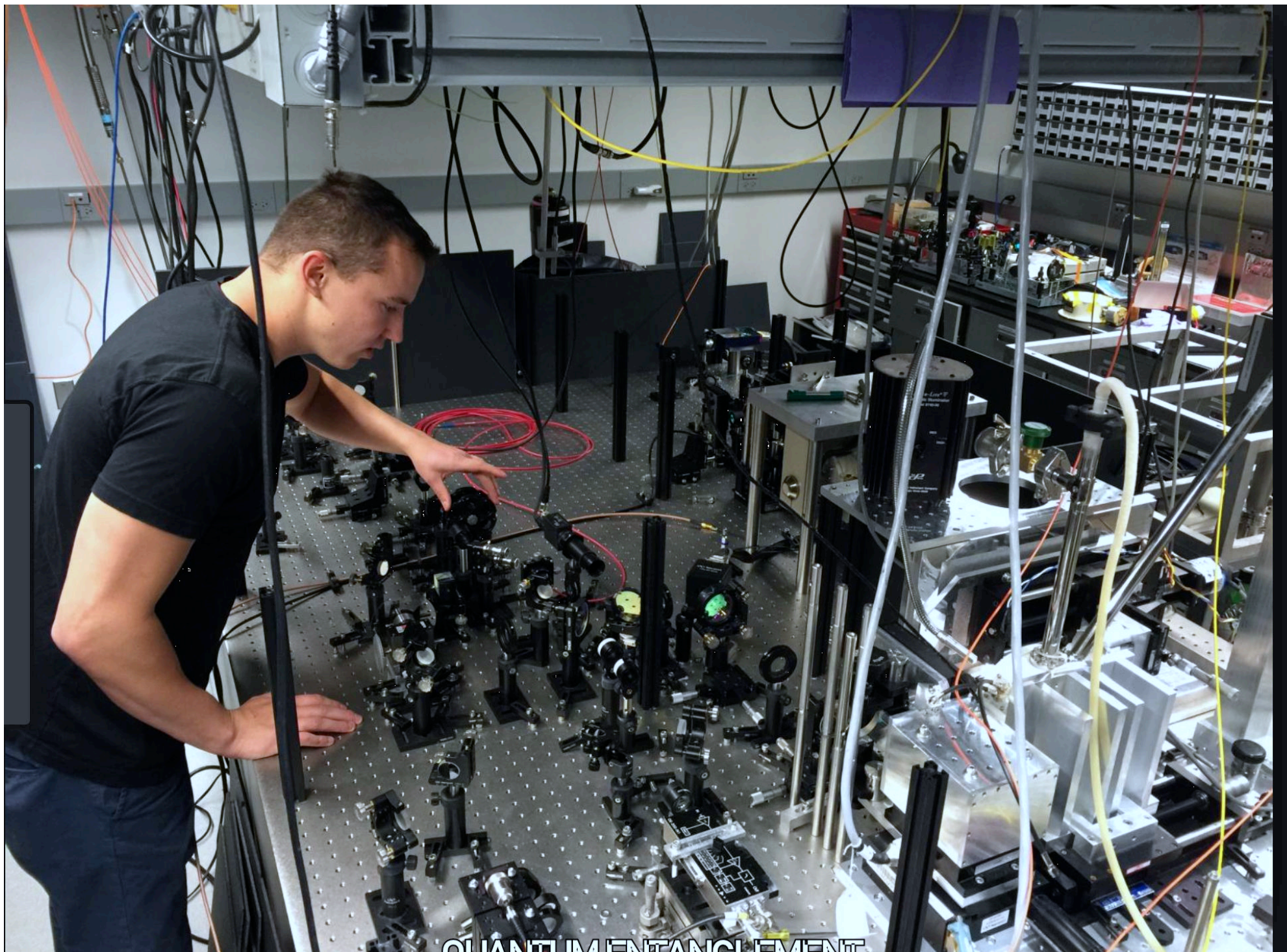
QUBITS EXISTING	→	QUBITS ADDED	→	ERROR RATE DECREASE	→	QUANTUM VOLUME INCREASE
100 Q		100 Q		0x		0x

Which-way Measurement



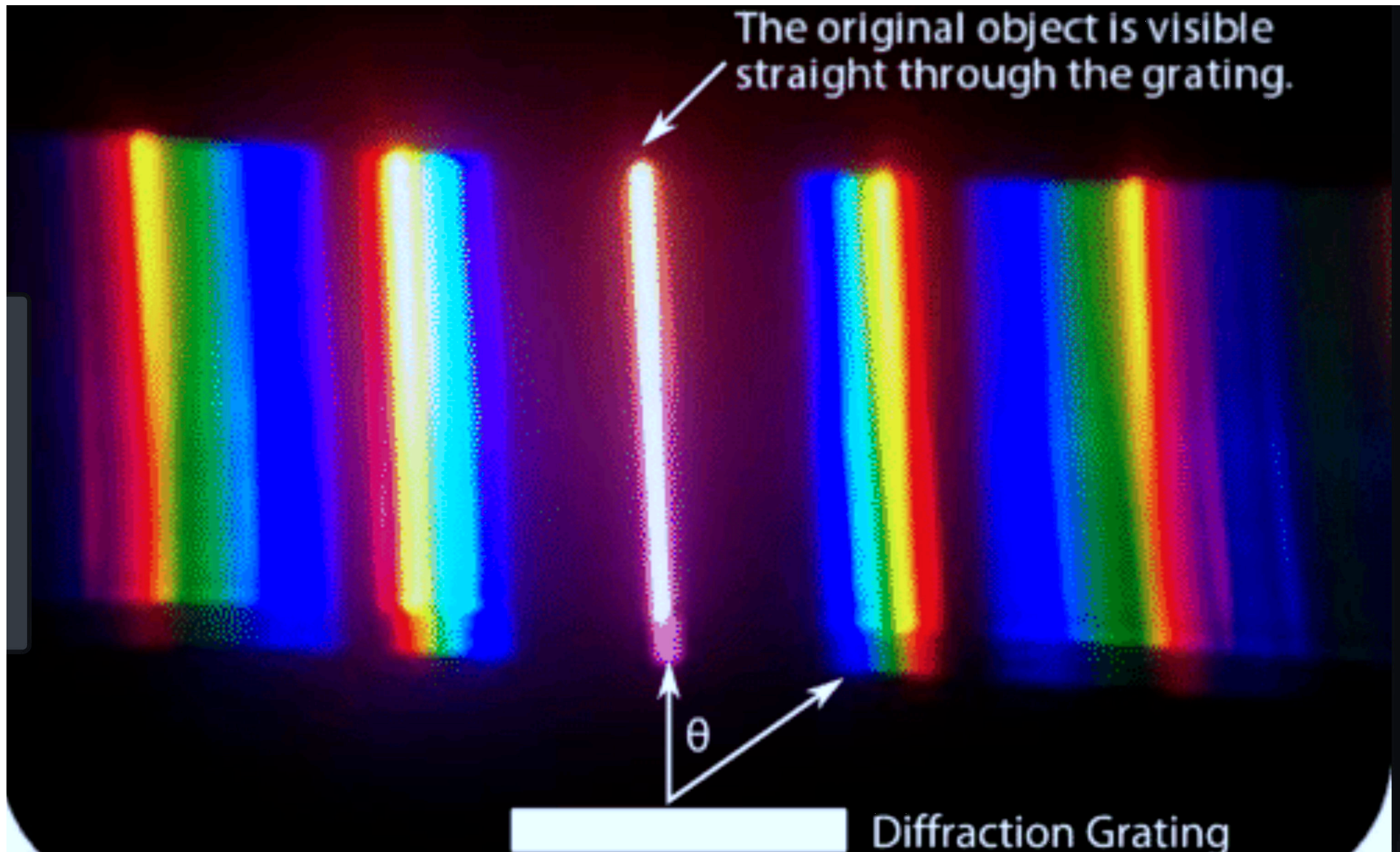
Mach-Zehnder Interferometer



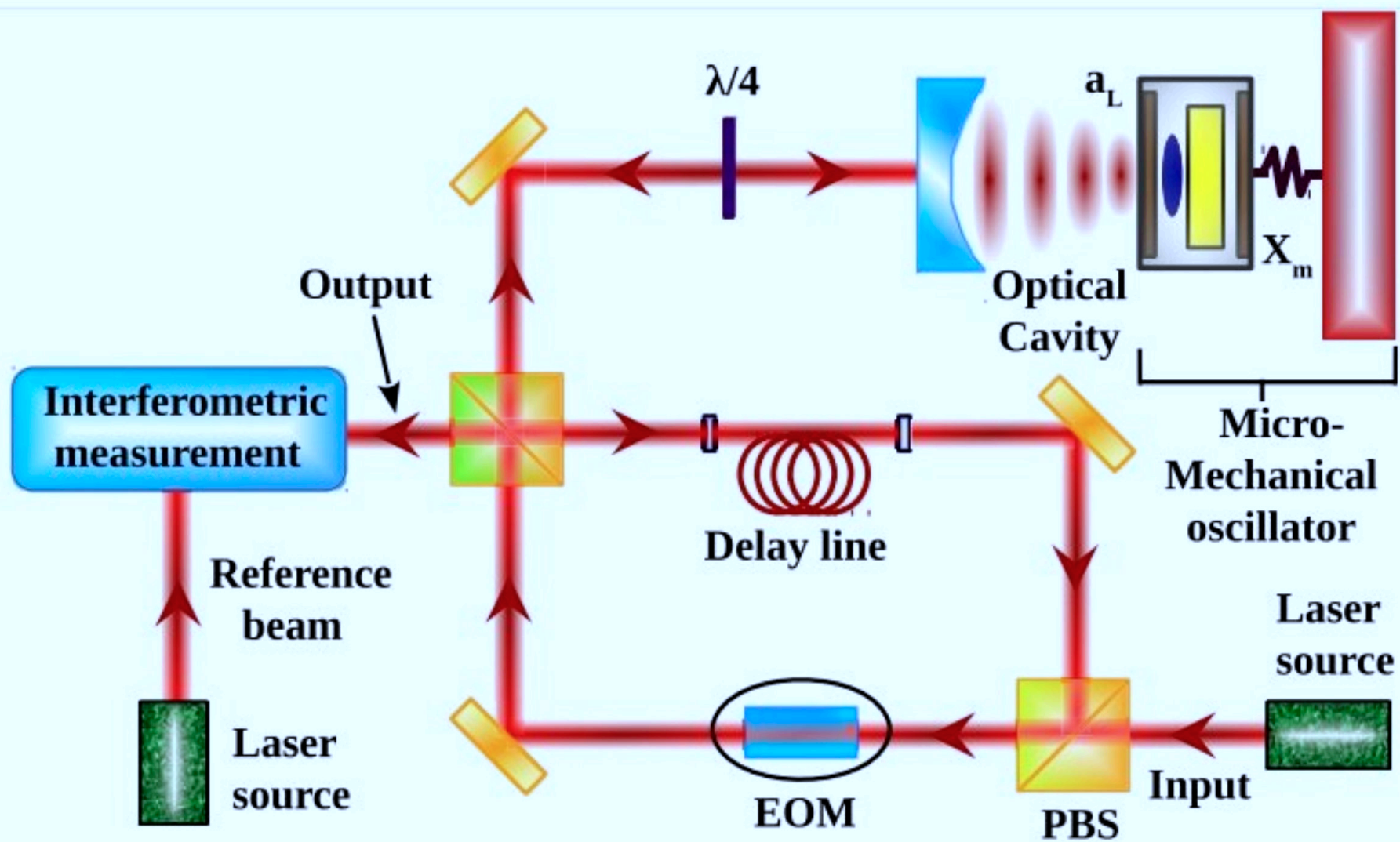


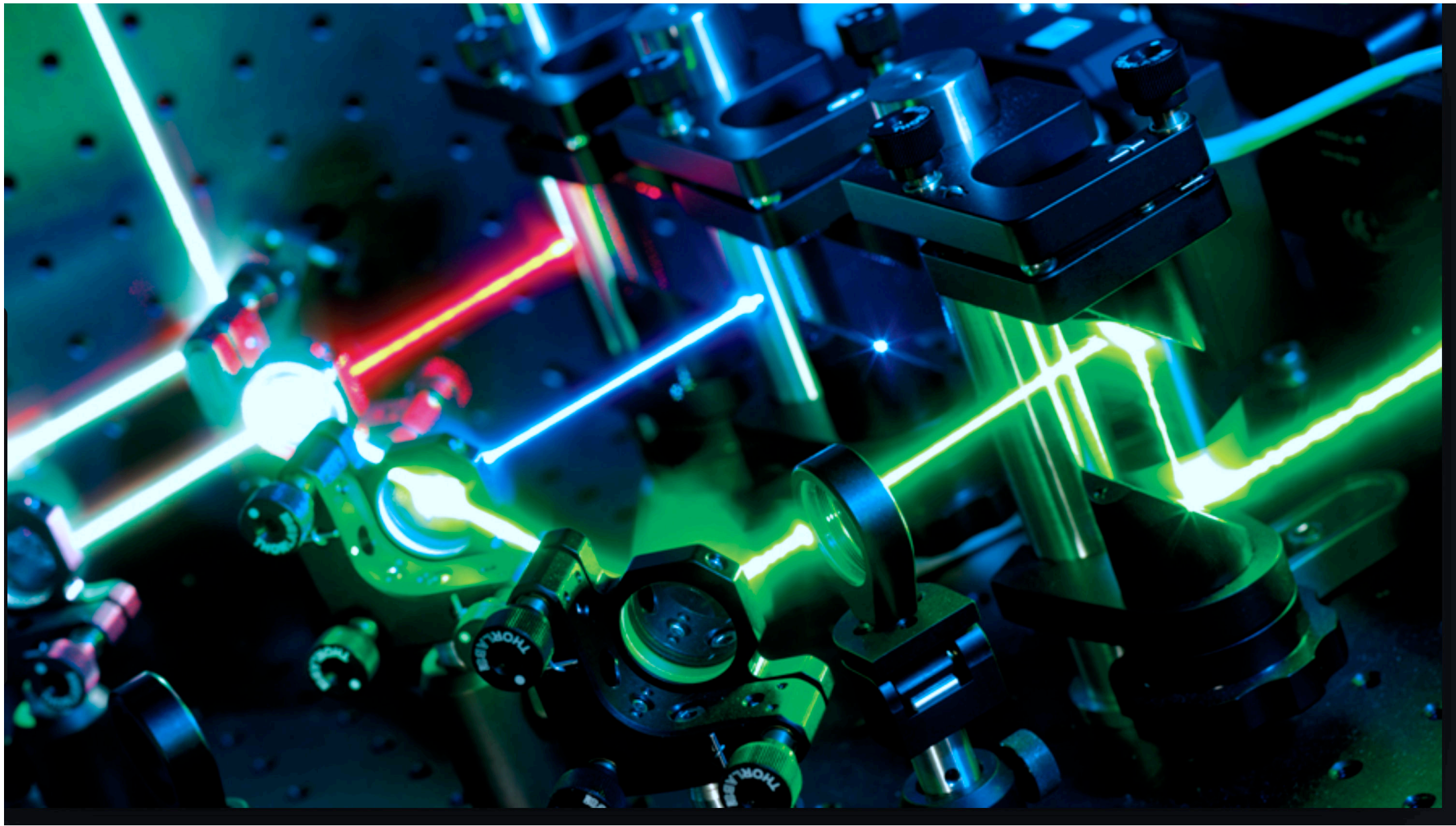
QUANTUM ENTANGLEMENT

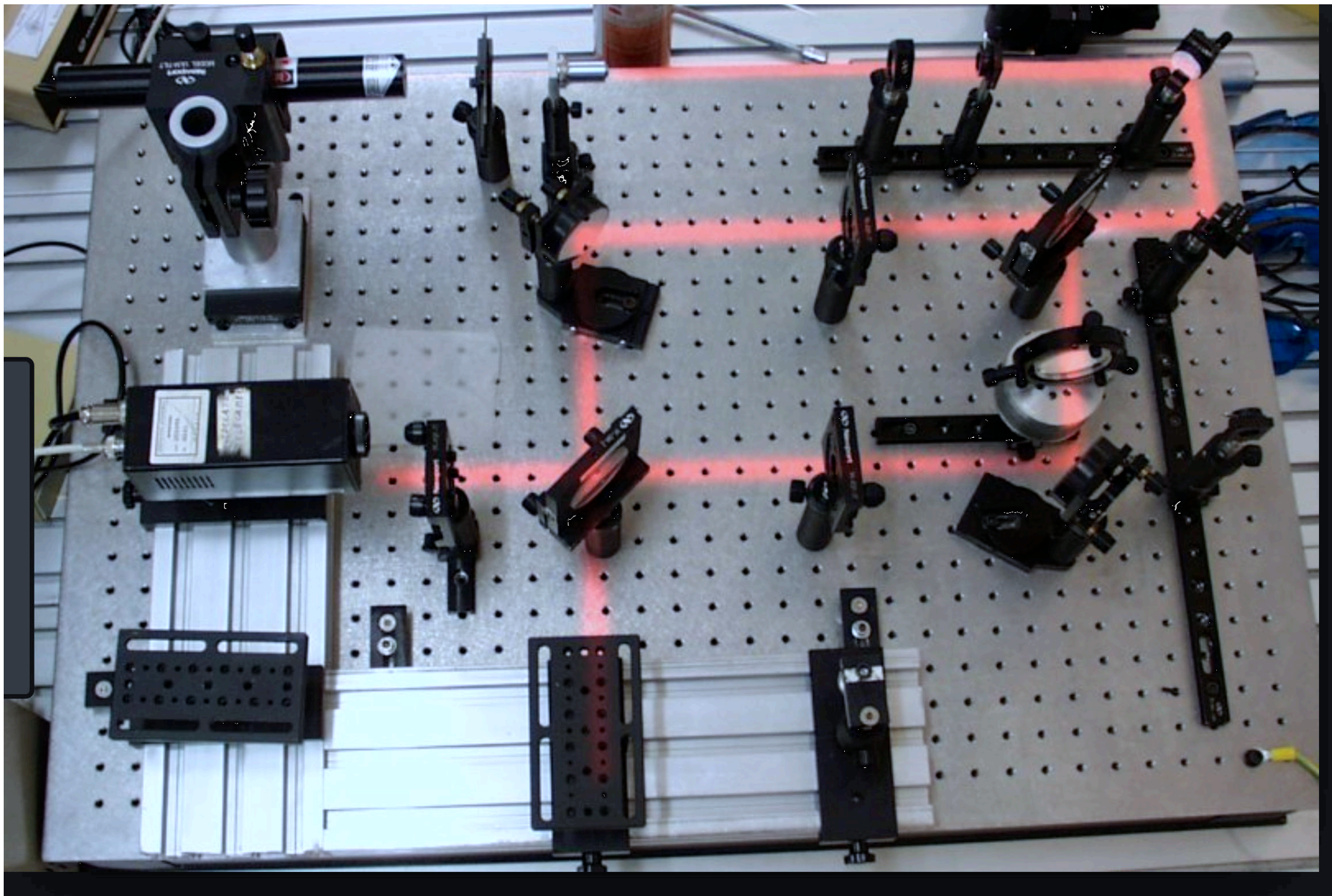
The original object is visible
straight through the grating.

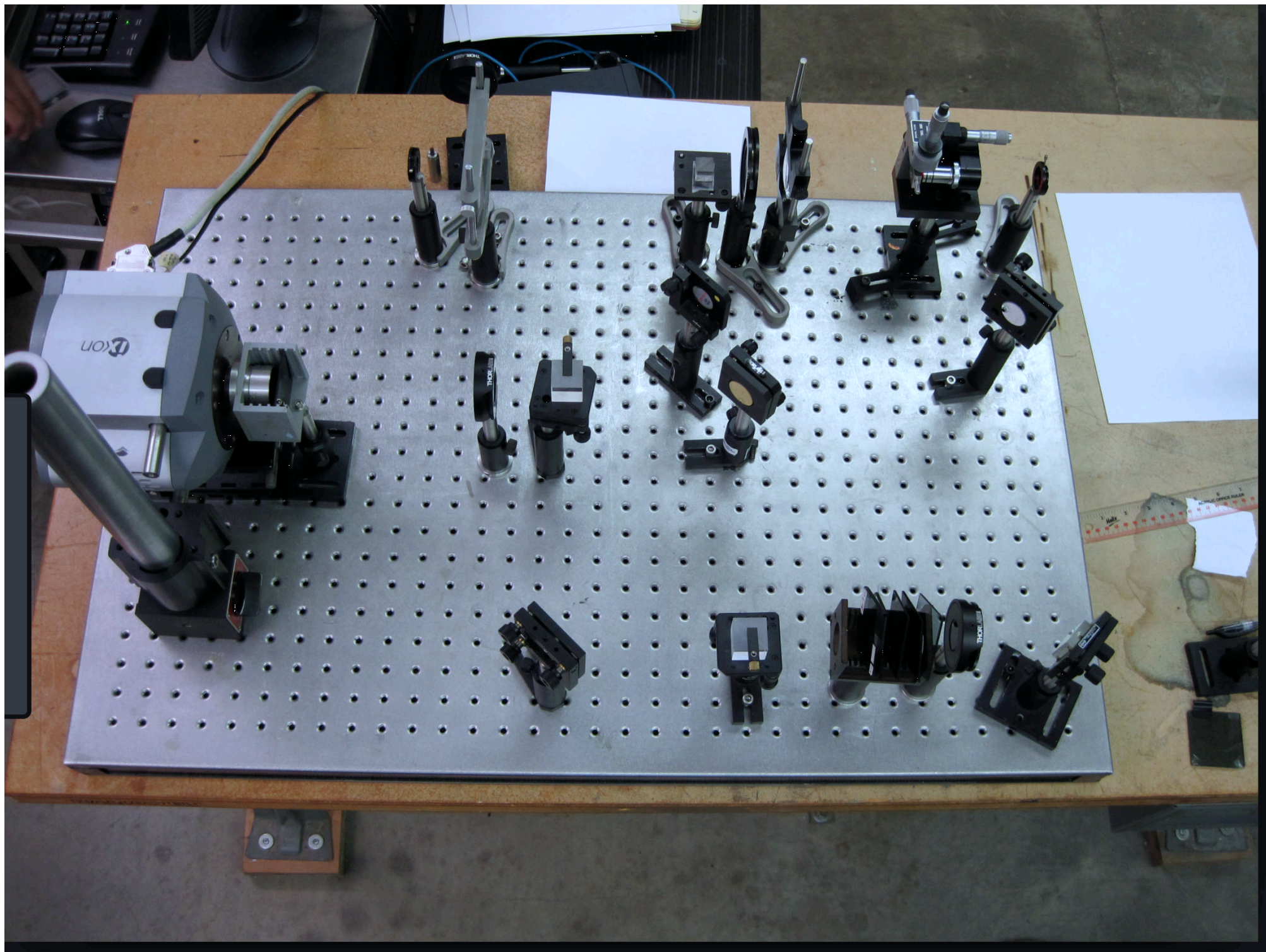


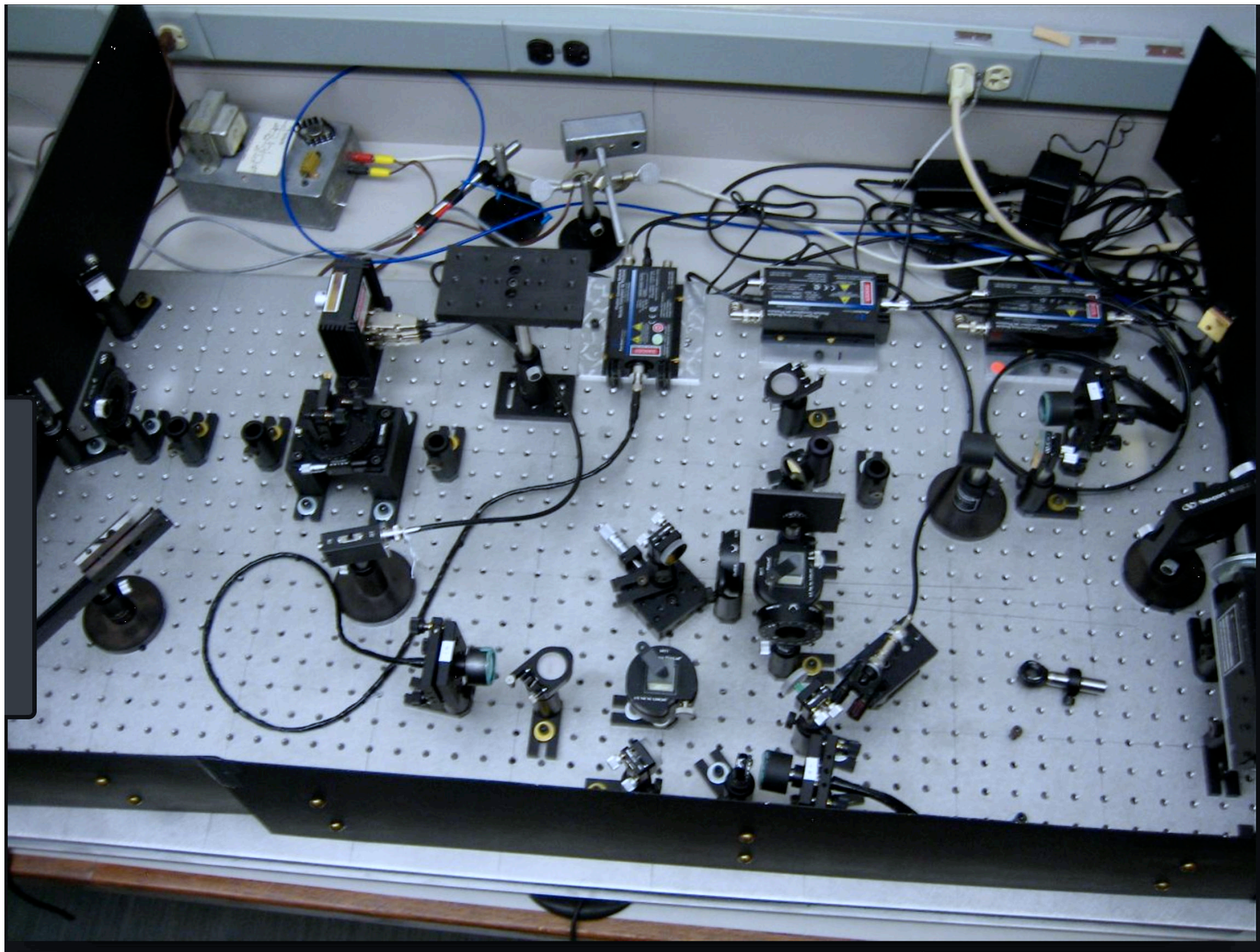
Diffraction Grating

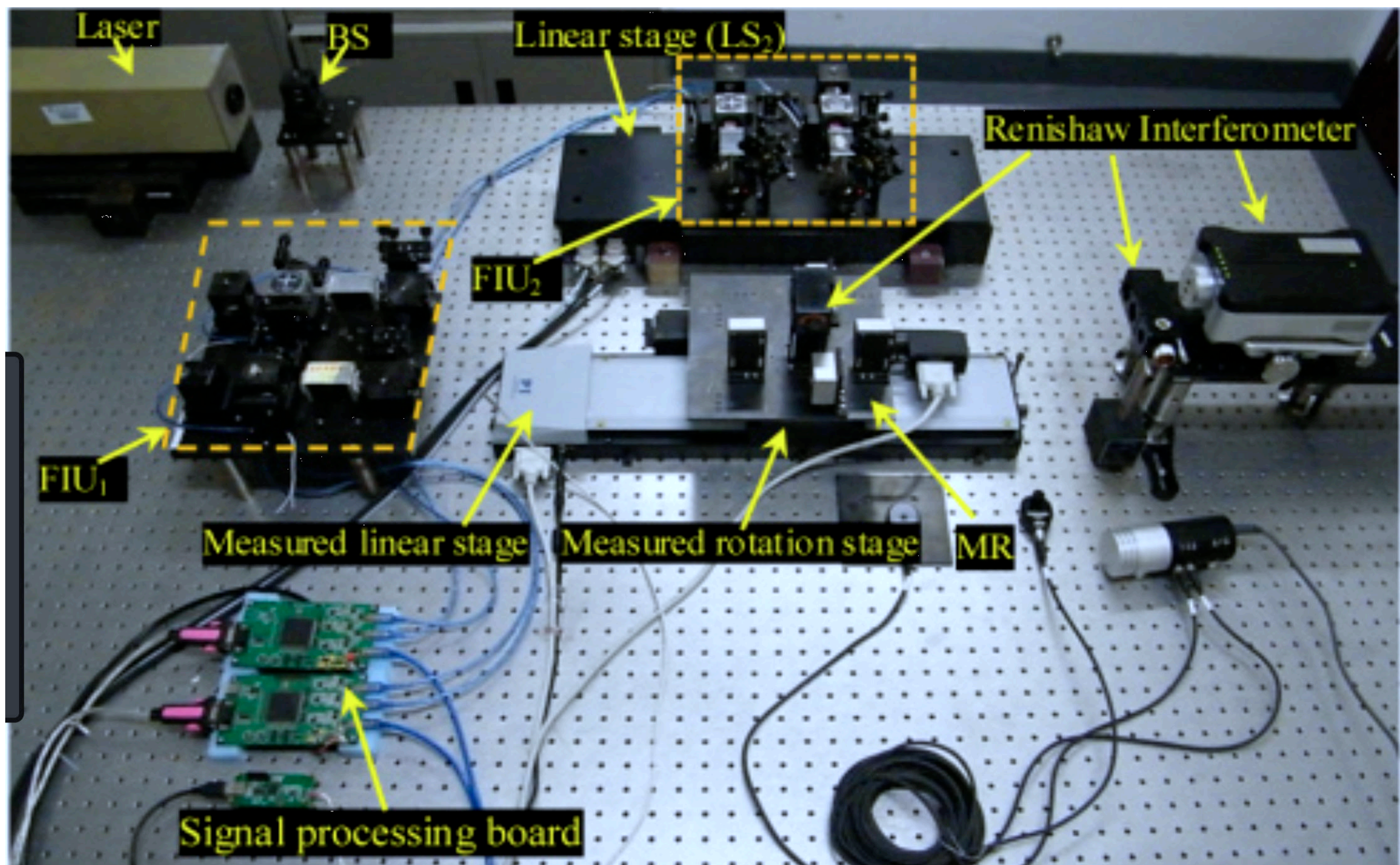


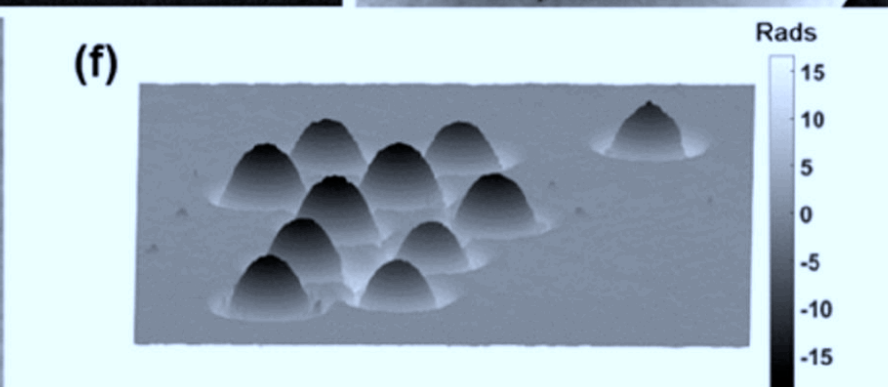
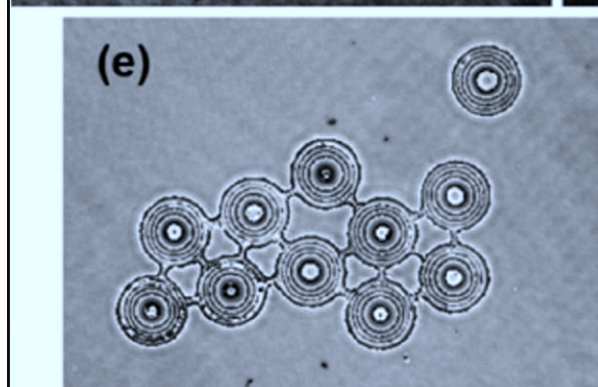
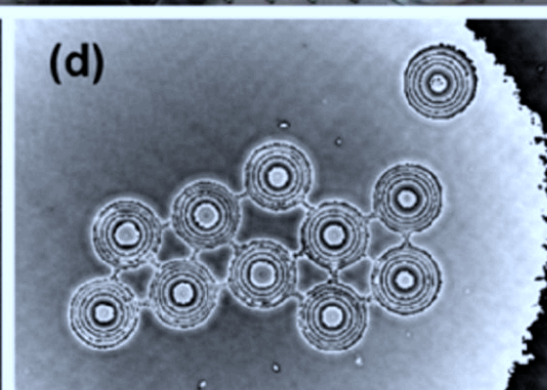
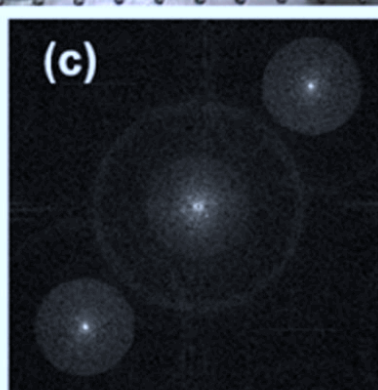
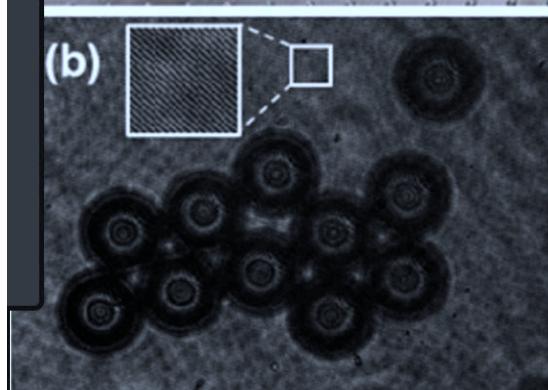
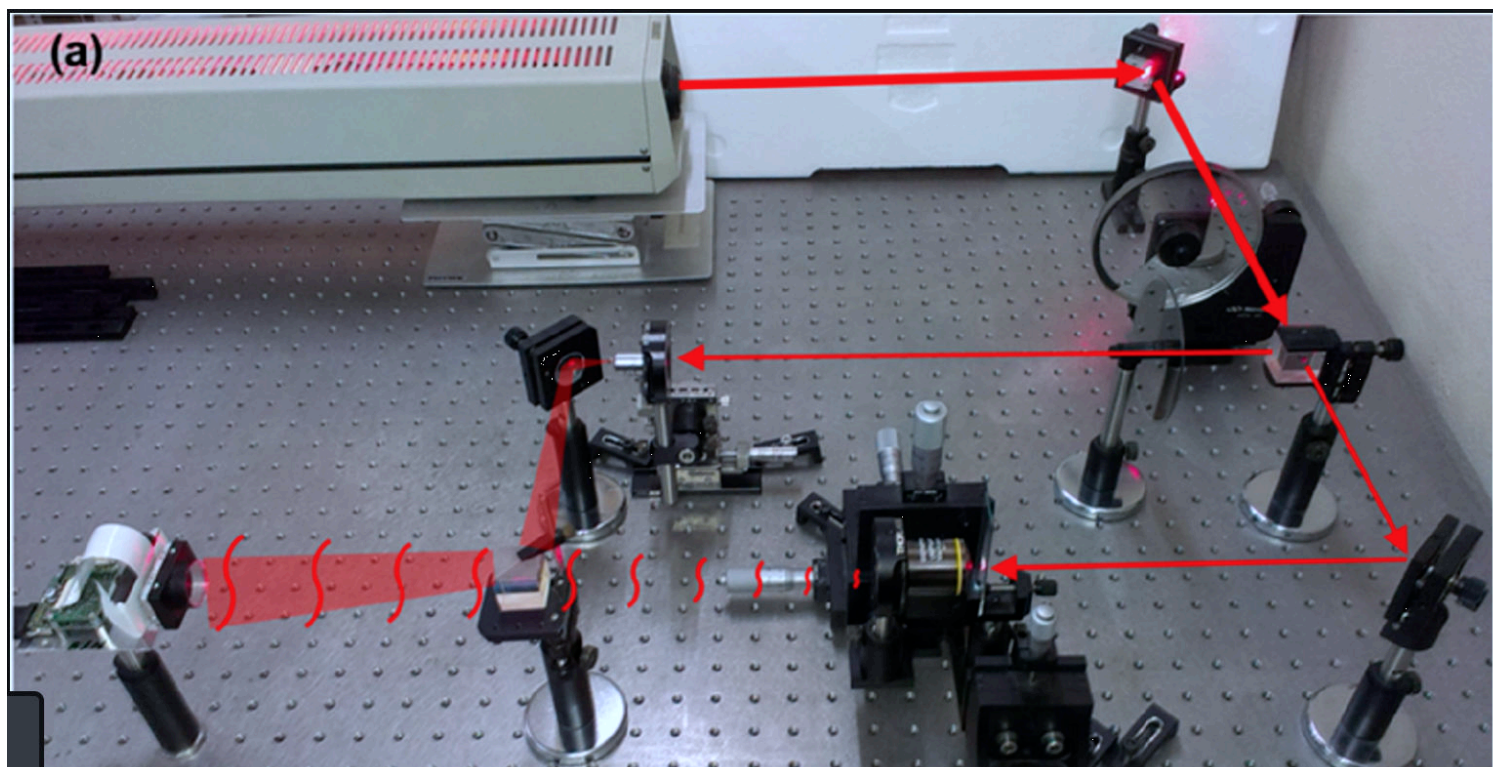


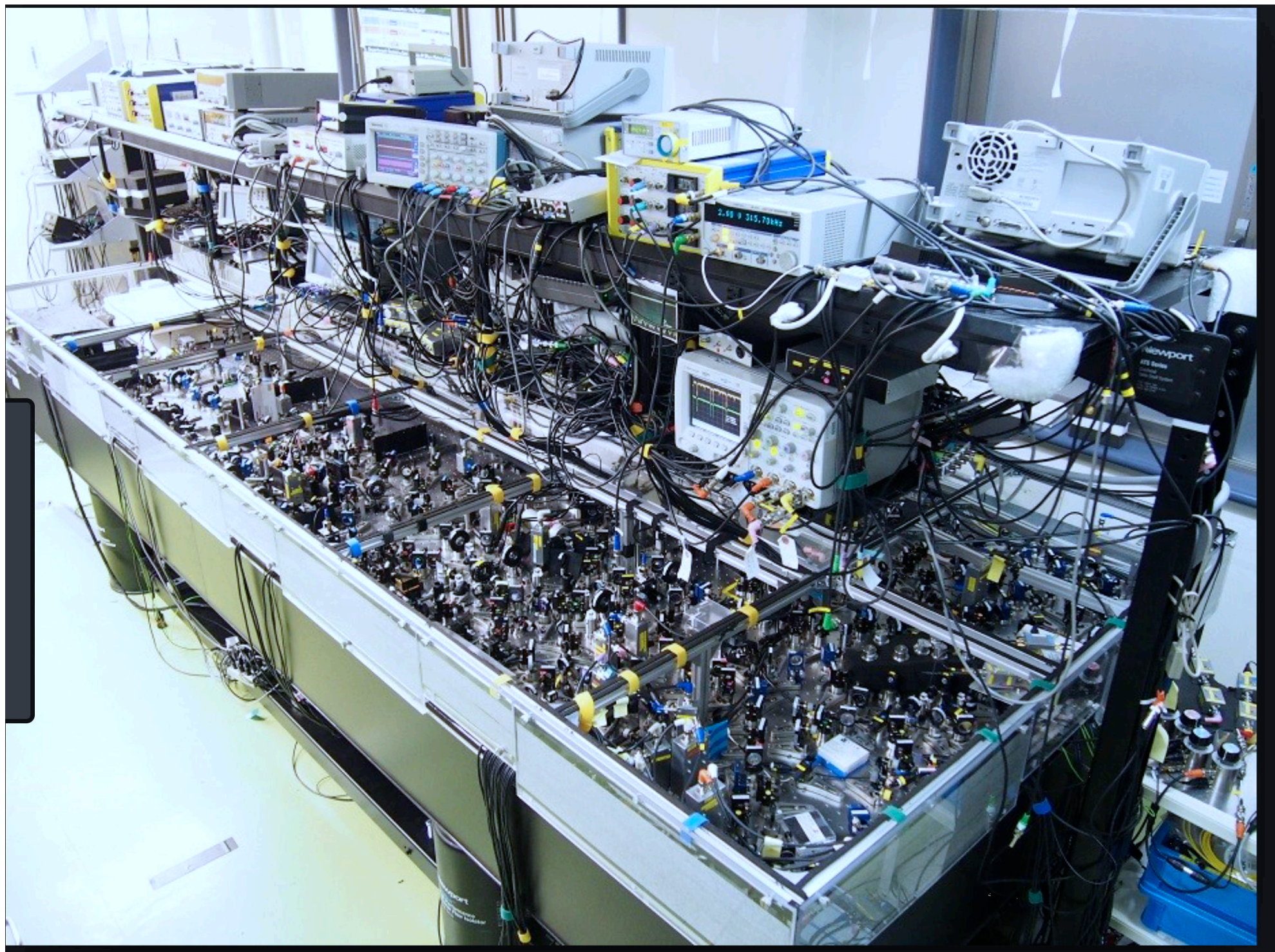


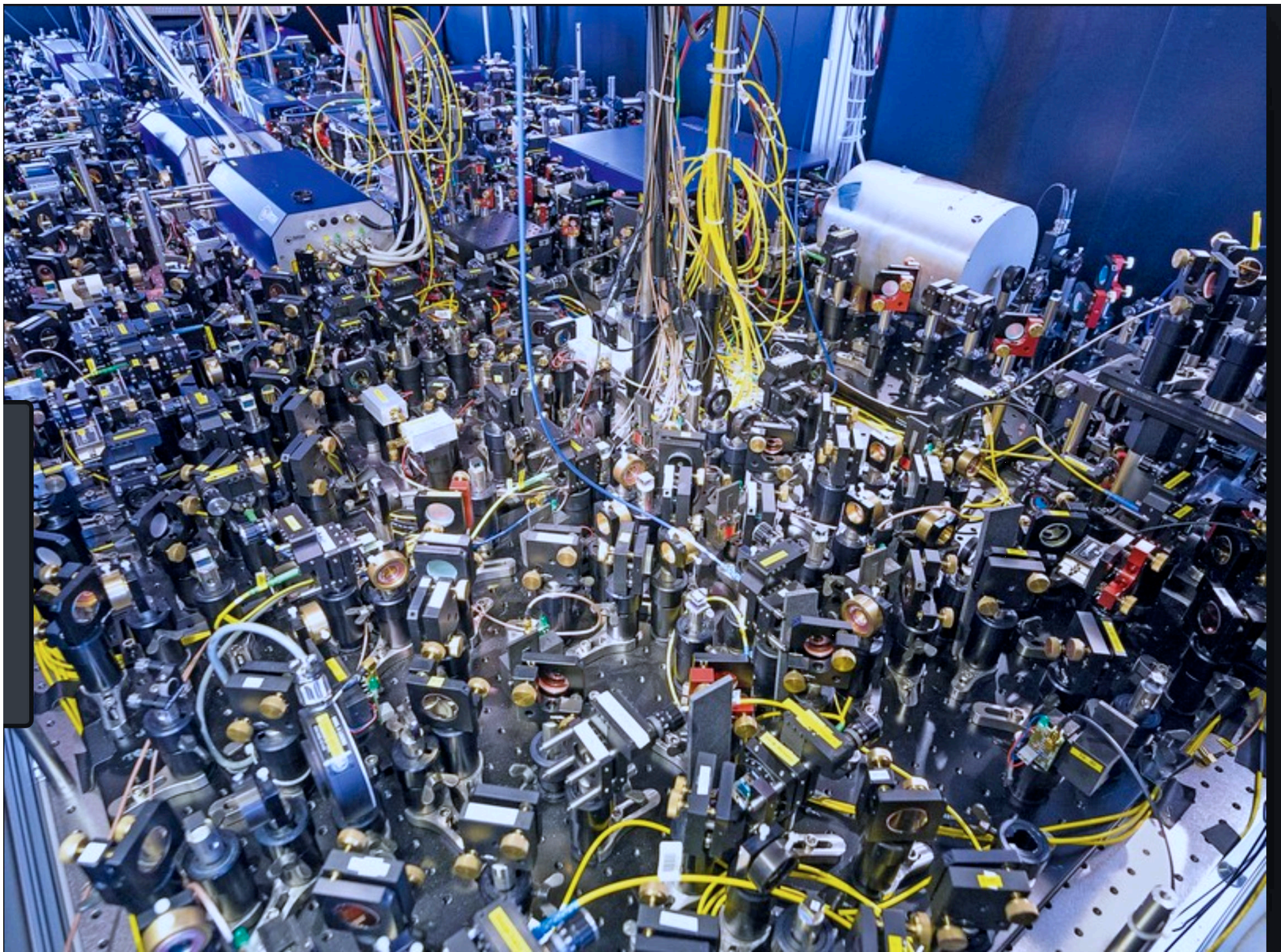


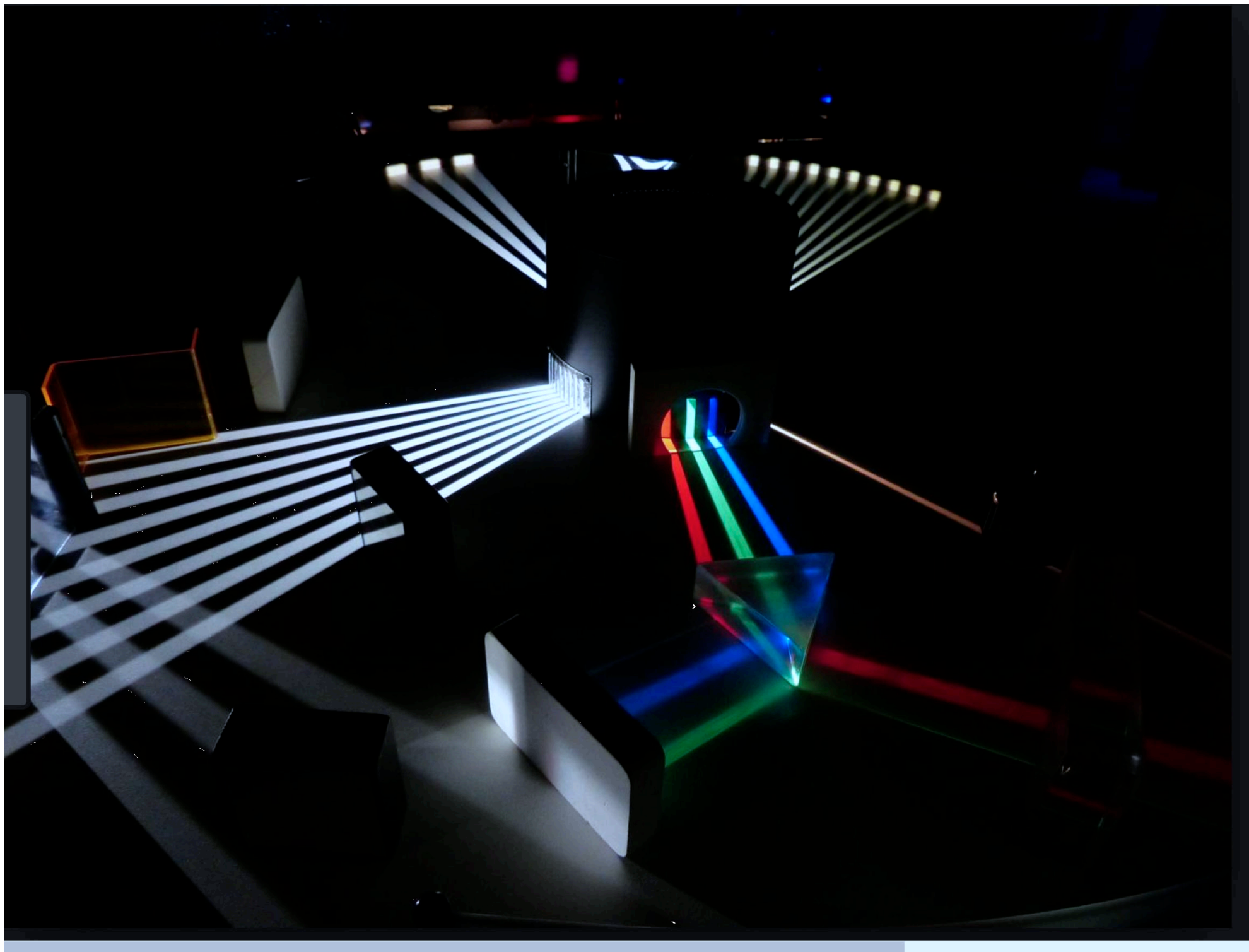




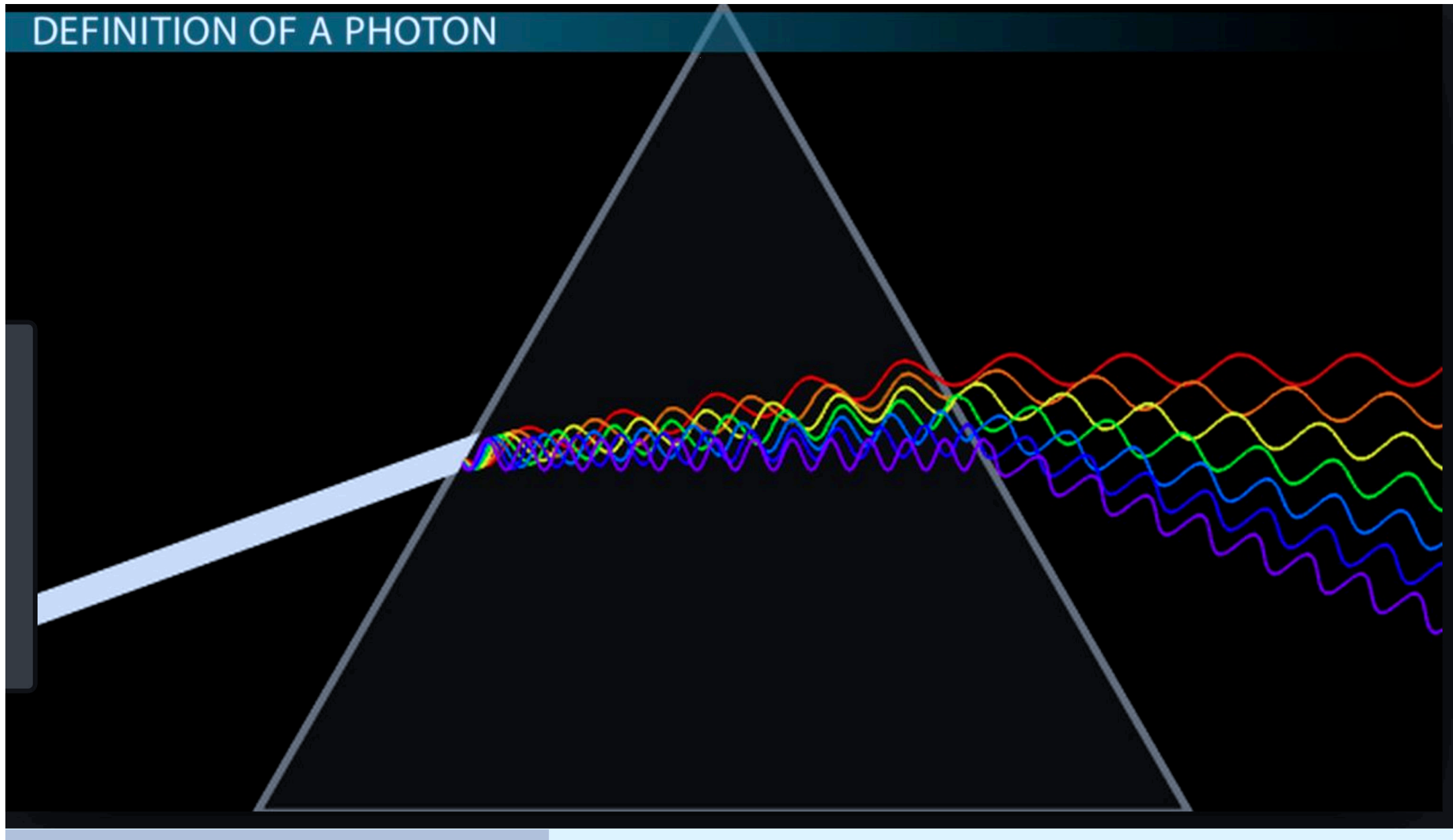


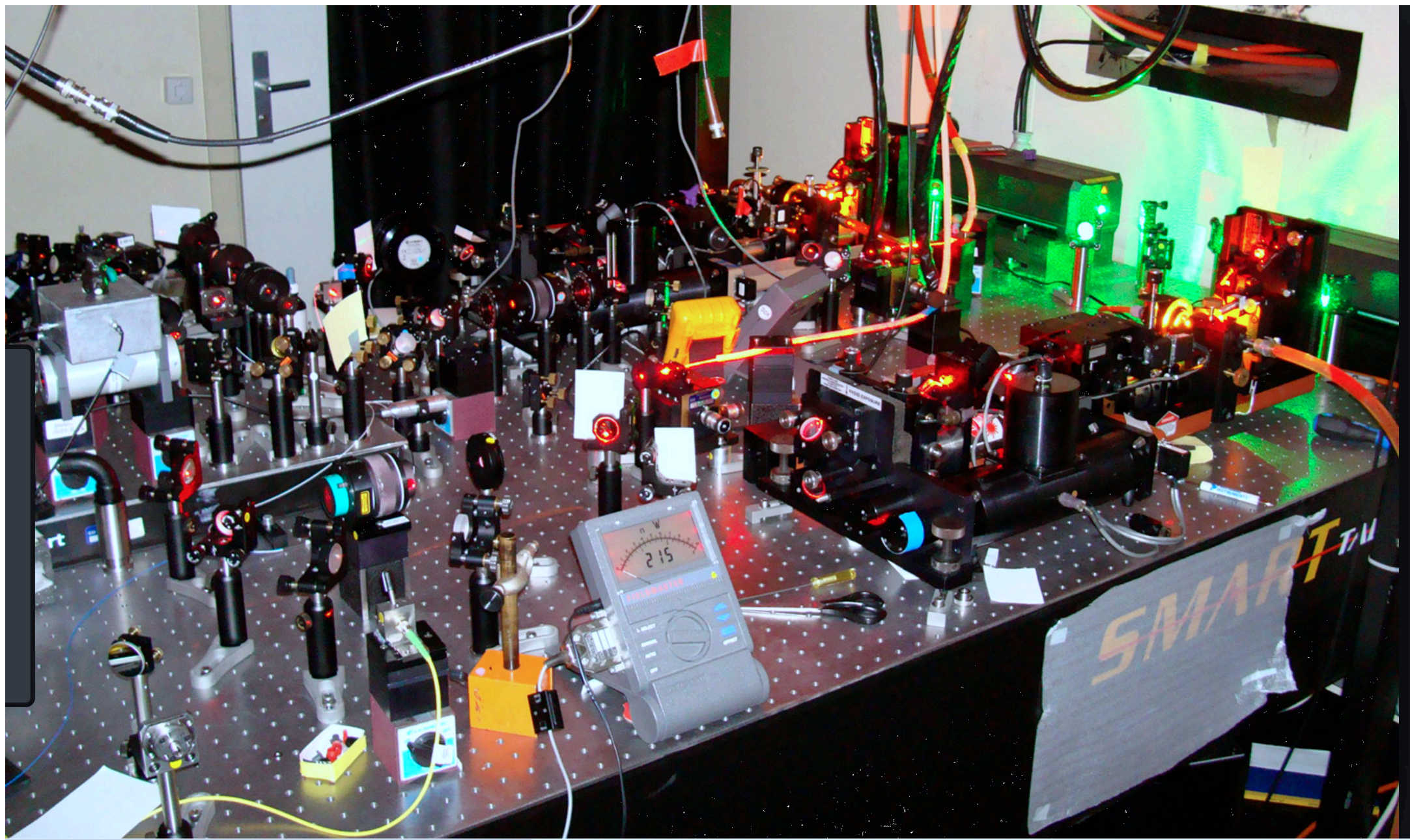


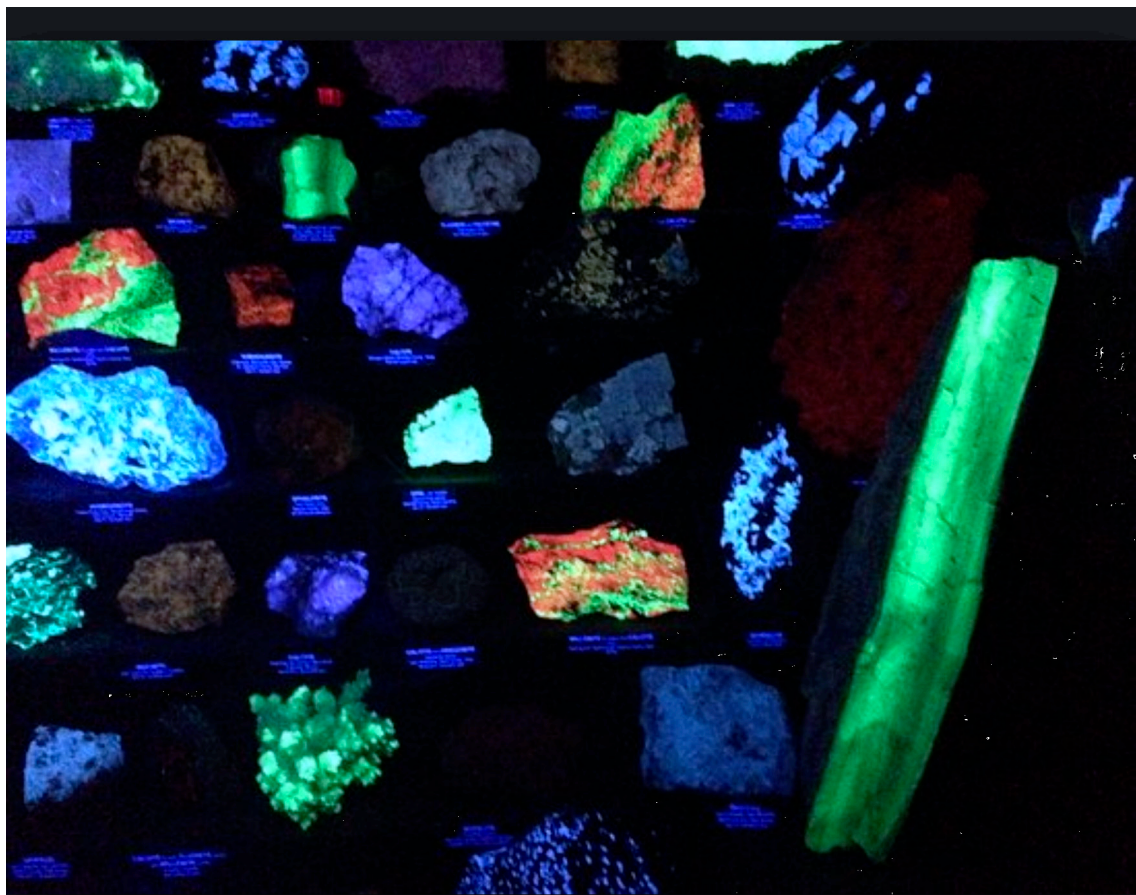




DEFINITION OF A PHOTON







550 x 413 - Images may be subject to copyright. [Learn More](#)

Minerals under black light in the Warr...


tripadvisor.co.za

Sterling Hill Mining Museum, Ogdensburg Picture: Minerals under black light in the Warren Museum of Fluorescence (included in the tour). - Check out TripAdvisor members' 221 candid photos and videos.

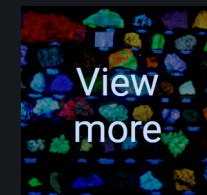
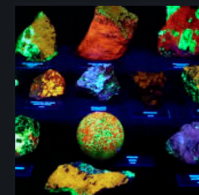
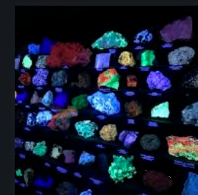
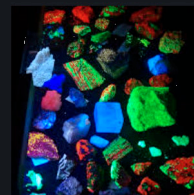
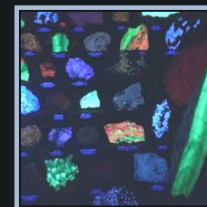
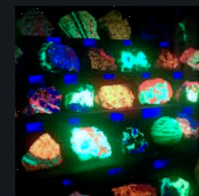
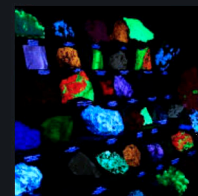
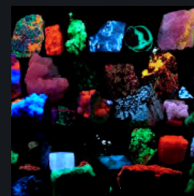
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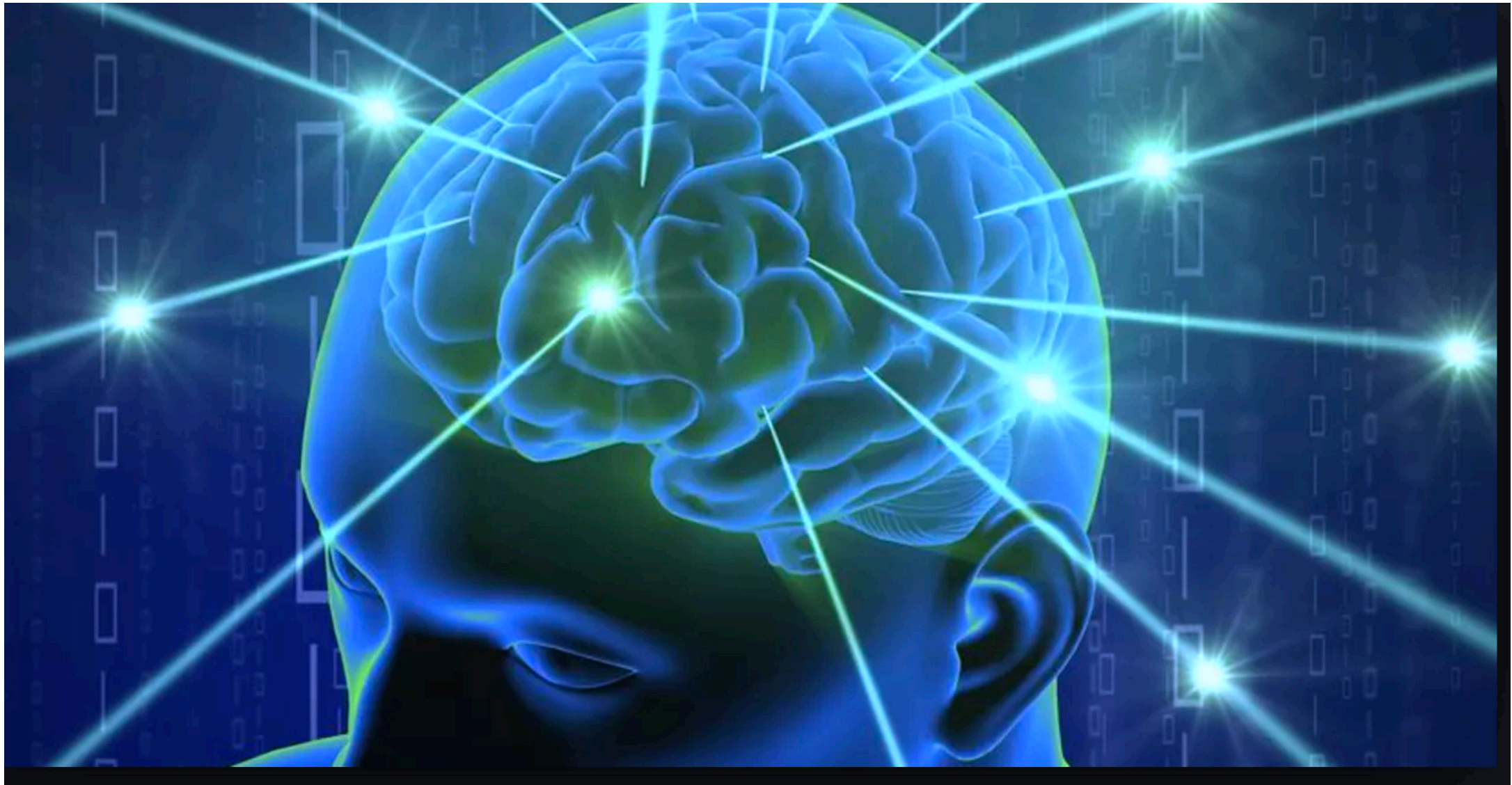
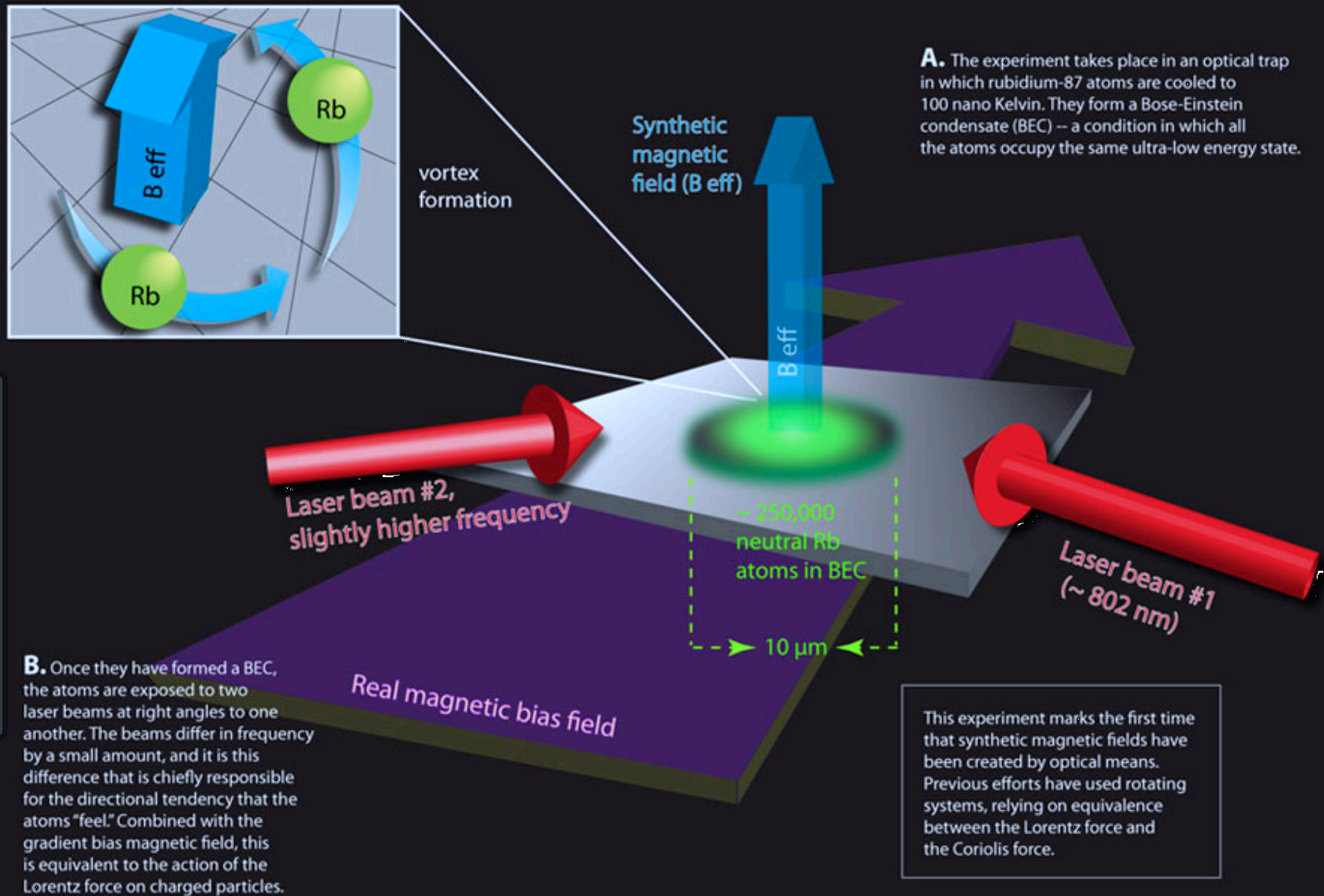
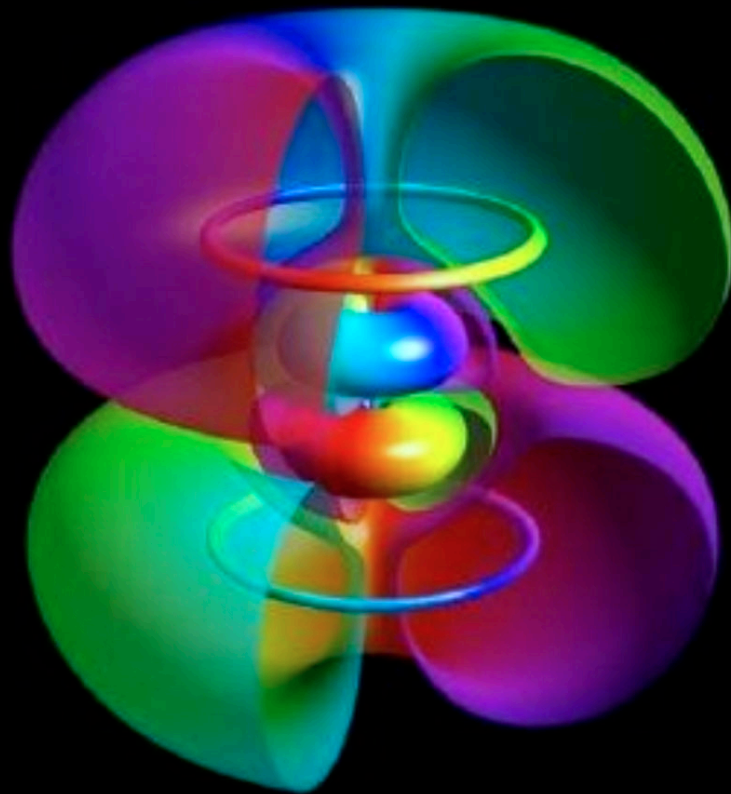


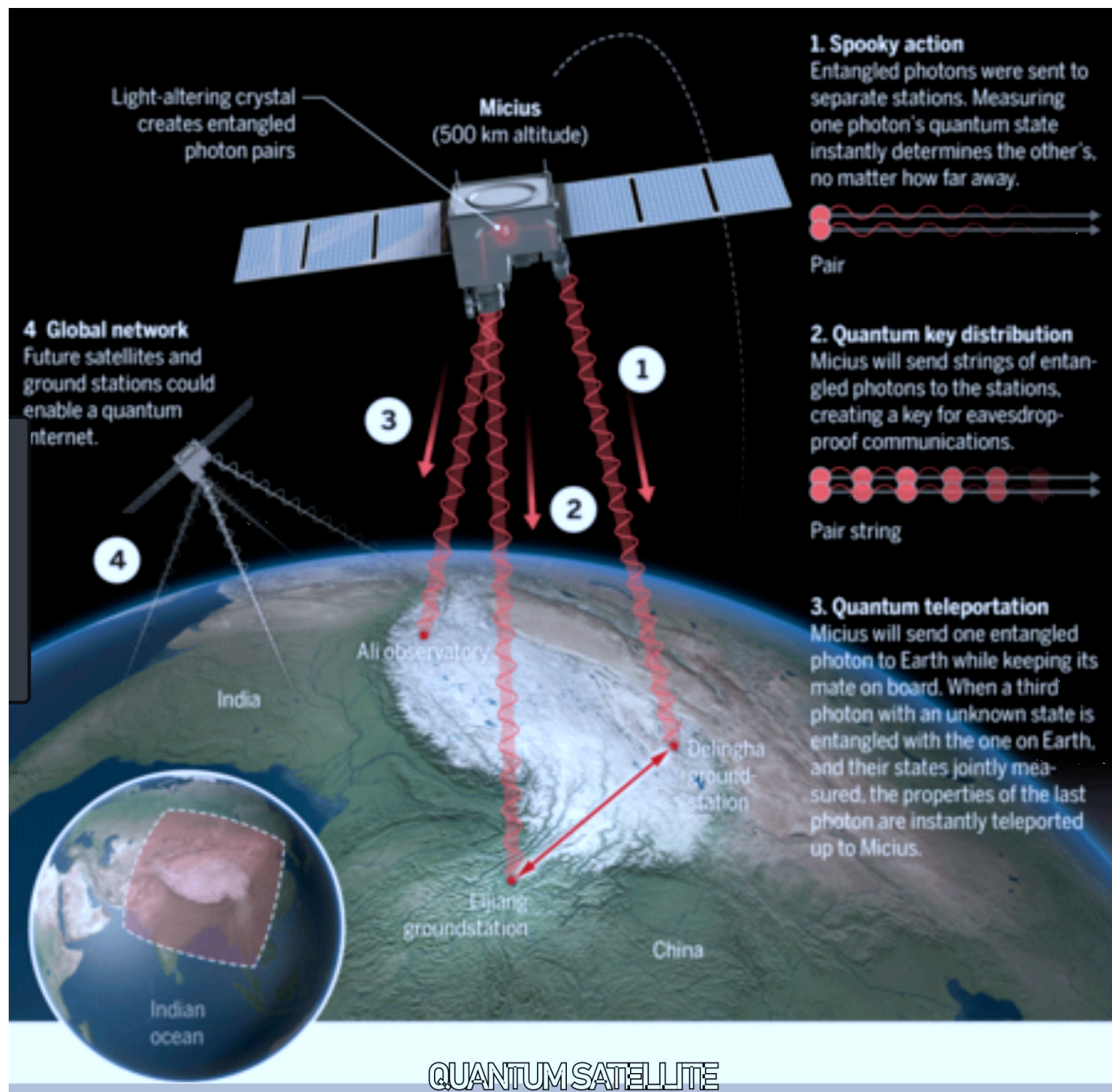
Figure 1: Inside the Trap



Quantum Mechanical Model



- The quantum mechanical model is the most advanced and accurate model of the atom, used today by chemists and physicists
- In this model, electrons do not exist as tiny points inside the atom, but instead surround the nucleus in a form resembling a cloud



QUANTUM SATELLITE

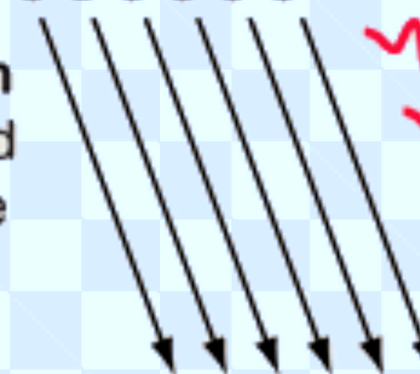
●●●●●●●● E_2

If a significant **population inversion** exists, then stimulated emission can produce significant light amplification

———— E_1

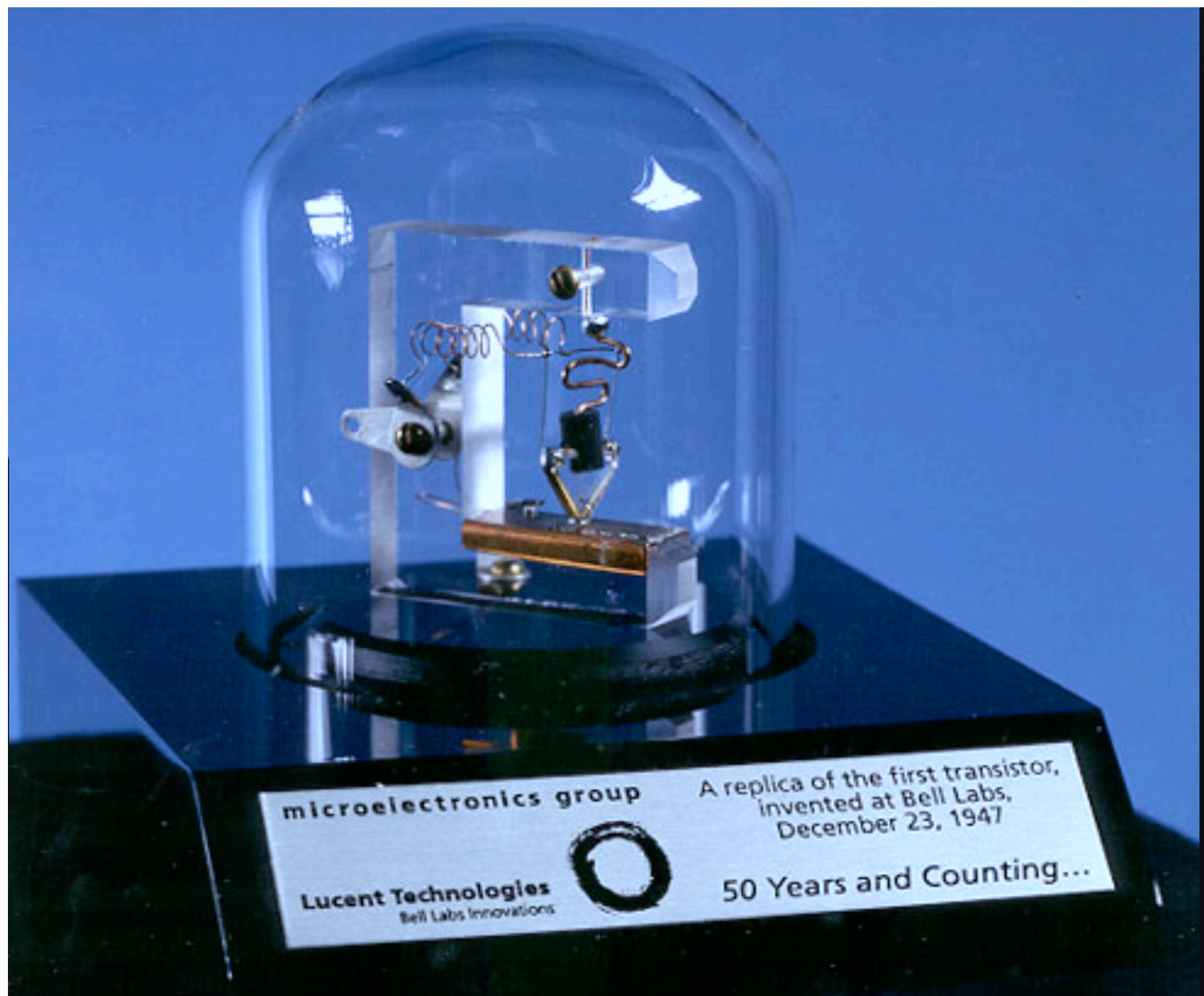
$E_{\text{photon}} = h\nu$
Incident photon

●●●●●●●● E_2



———— E_1

Photons produced by stimulated emission have a definite phase relationship, producing **coherent** light.



microelectronics group

Lucent Technologies
Bell Labs Innovations



A replica of the first transistor,
invented at Bell Labs,
December 23, 1947

50 Years and Counting...

Human Choice Cuts

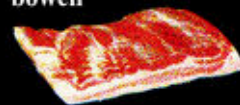
1. BRAIN

Don't Eat - although the brain seems fatty and tasty, it's no good, gives you CJD (Creutzfeldt-Jakob disease) - basically kills your brain cells. Unless you want to inherit the aura of your meal, steer clear.



2. FRONT

Eye Fillet - best cut, non-working muscle, sits on the bowell



Ribs (Spare Ribs) good eating - BBQ

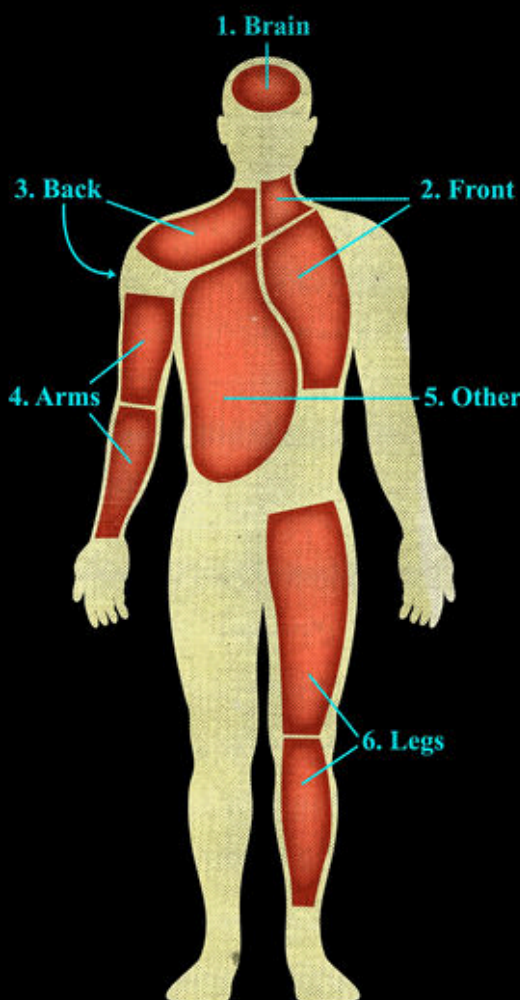
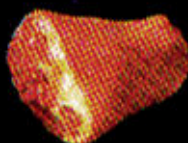


4. ARMS

Fore Arm - tough meat - soup



Upper Arm - slow cook, like lamb shanks

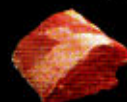


3. BACK

Neck - diced, hungarian goulash



Shoulder - Blade Steak (slow cook, needs some work to make tender)



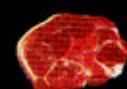
Strip down the middle of the back (loin) all BBQ steaks



Middle of Loin middle is the rib fillet or scotch fillet (good eating)



Lower Loin porterhouse steak or T-bone (good eating)



Lower back on either side of Loin muscles - Rump

5. OTHER

Lungs full of iron



Skin you can leave on - crackling (need to shave the hair off though)



Nervous System - carbohydrates rich

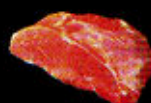


Liver - Don't Eat - Because we give our livers a good bash, they are full of Vitamin A - too much Vit A is toxic and can fuck you up - pretty much weakening your body, making you throw up, general body and head pains

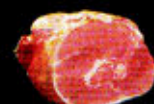


6. LEGS

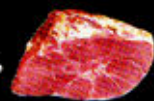
Below the knee - tough meat, too sinewy, working muscles, stewing (meat/vegie /slow cook)

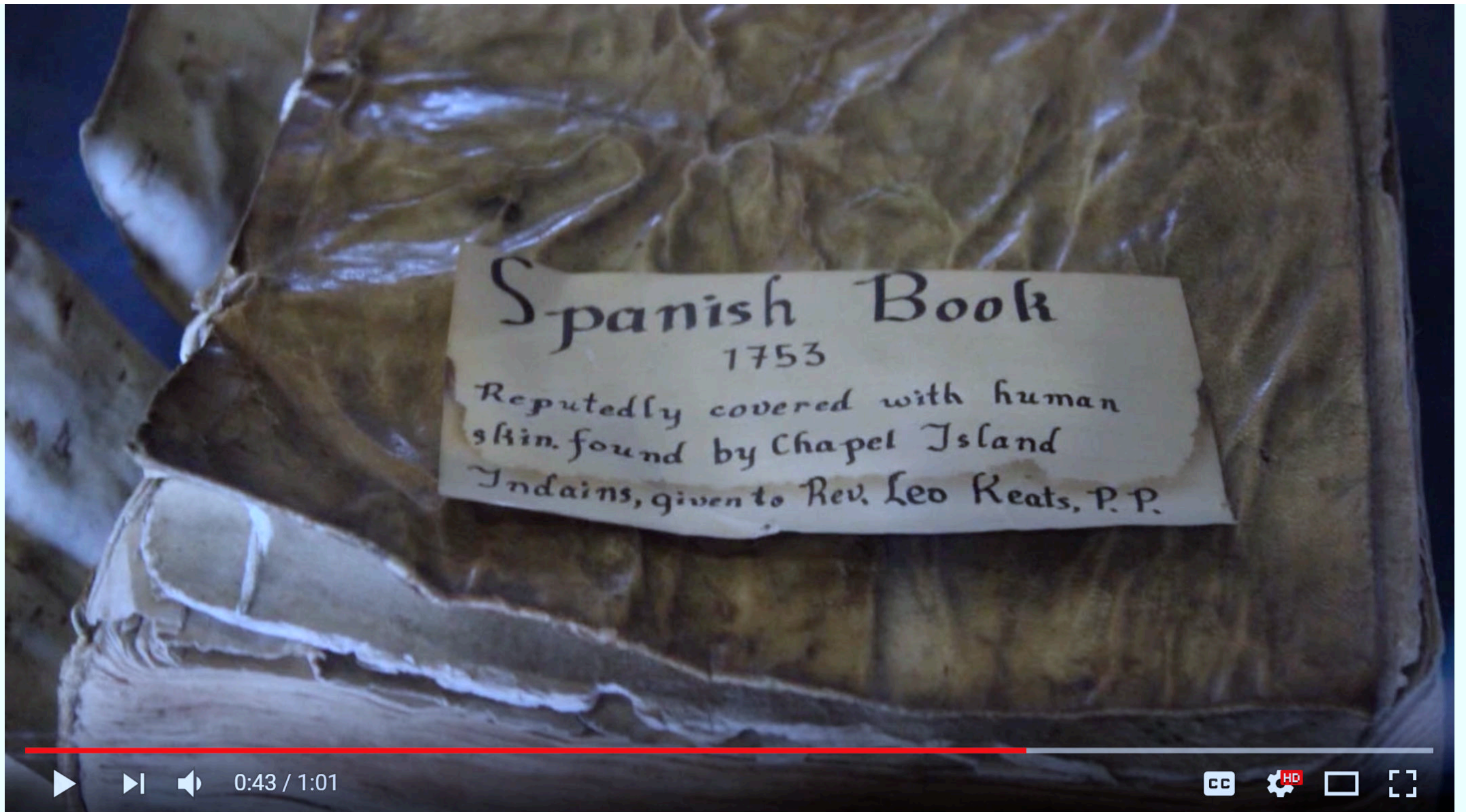


Thigh meat - again, working muscle, slow cook - Osso Bucco



Buttocks (silverside or topside) slow roast, Mum's Sunday roast

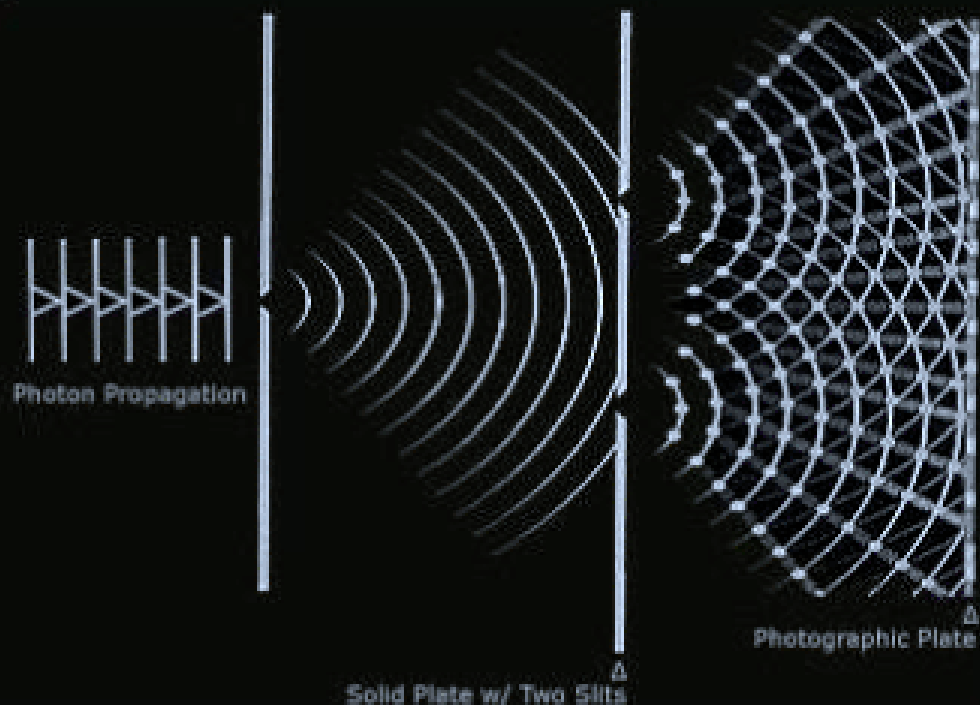




*Human Skin Covered Book - Anthropodermic biblioegy - St.Peter's, Nova Scotia

The Most Beautiful Experiment

Quantum physics informs us that a system exists in superposition — that is, in all possible states — until we observe that it is only in one...

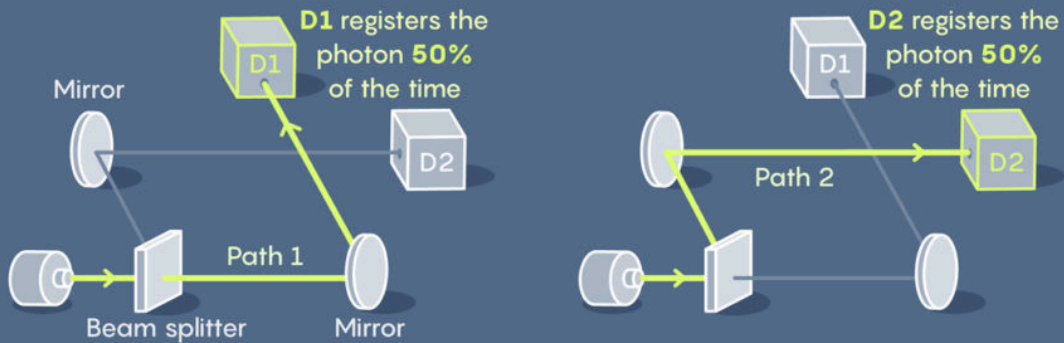


The Delayed-Choice Experiment Explained

Are quantum objects “real” when they’re not observed? The delayed-choice experiment demonstrates that they can’t be. It shows that an unobserved photon is neither a wave nor a particle.

If the Photon Is a Particle

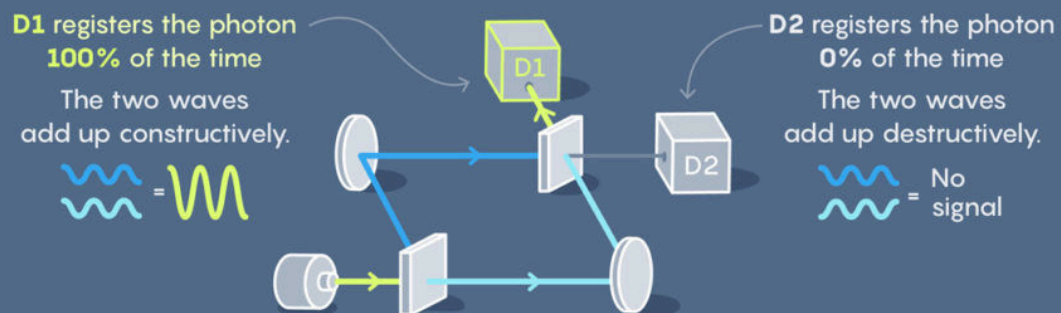
Fire a photon at a beam splitter. The photon acts as an indivisible particle. It takes either path 1 or path 2 and then goes on to hit detector D1 or D2.



If the Photon Is a Wave

Add a second beam splitter. This time the photon acts as a wave.

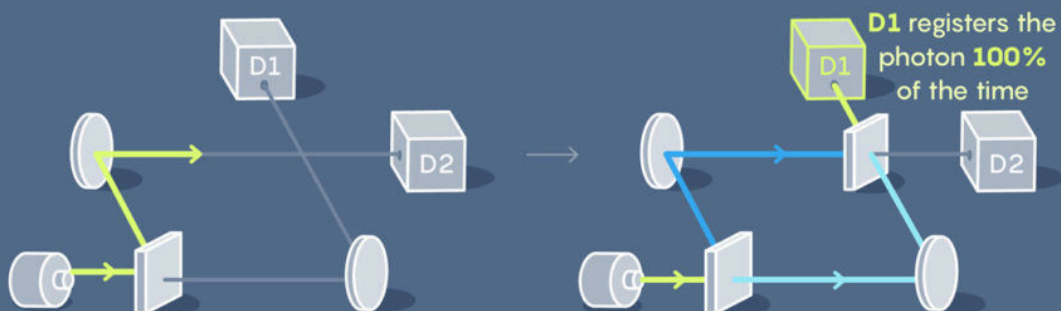
It seemingly splits into two waves at the first beam splitter. The waves recombine at the second. The photon always hits only one of the detectors.



Delayed Choice

Start with only one beam splitter. The photon should act like a particle.

At the last moment, add the second beam splitter. The particle then suddenly changes to be wavelike, as if it was always going down both paths.

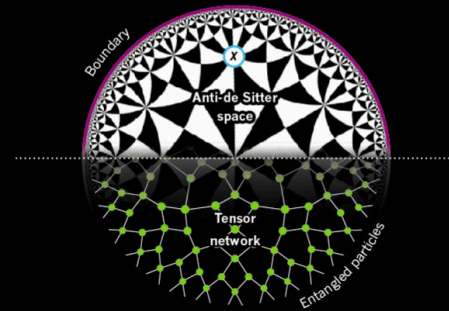


CONCLUSION: Either the addition of the beam splitter sent a signal backwards in time to influence the photon’s initial behavior, or photons do not have definite, intrinsic properties when they are not being observed.

THE ENTANGLEMENT CONNECTION

The ghostly quantum phenomenon of entanglement may be what knits space-time into a smooth whole.

In an infinite model universe known as anti-de Sitter space, the effects of gravity at any point x in the interior are mathematically equivalent to a quantum field theory on its boundary. This universe can be visualized in 2D by filling it with imaginary triangles. Although the triangles are identical, they look increasingly distorted as they approach the boundary.



Physicists noticed that this pattern resembled diagrams called tensor networks, which were invented to show connections between quantum particles on a massive scale. These connections are known as quantum entanglement.

What is quantum entanglement?

In 1935, Albert Einstein, Boris Podolsky and Nathan Rosen (EPR) pointed out that a connection can exist between widely separated quantum systems: a measurement of one will determine the state of the other.

EXAMPLE



The particles are separated.

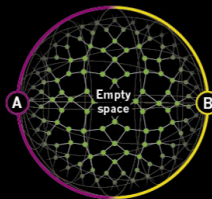


Entangled spins: if one particle is spinning up, the other spins down, and vice versa.

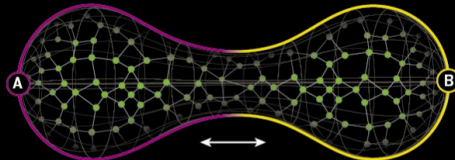
Observation of one particle instantaneously reveals the state of the other.

DISENTANGLEMENT

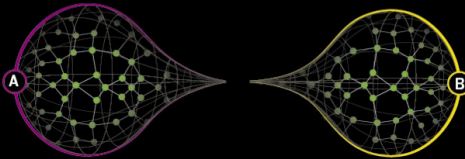
The bulk-boundary correspondence implies that space on the inside is built from quantum entanglement around the outside.



Even when the bulk universe is empty, the quantum fields in any two regions of the boundary (A and B) are heavily entangled with one another.



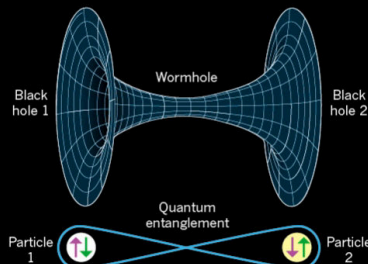
If the entanglement between these regions is reduced, the bulk universe starts pulling apart.



When the entanglement is reduced to zero, the bulk universe splits in two — showing that entanglement is necessary for space to exist.

ER = EPR

Also in 1935, Einstein and Rosen (ER) showed that widely separated black holes can be connected by a tunnel through space-time now often known as a wormhole.

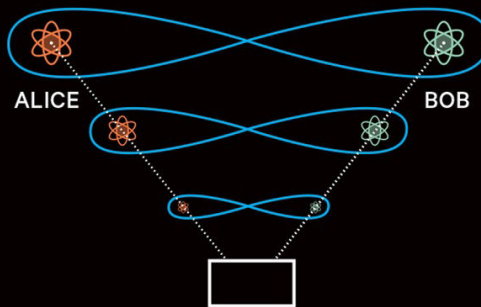


Physicists suspect that the connection in a wormhole and the connection in quantum entanglement are the same thing, just on a vastly different scale. Aside from their size there is no fundamental difference.

QUANTUM COMMUNICATION

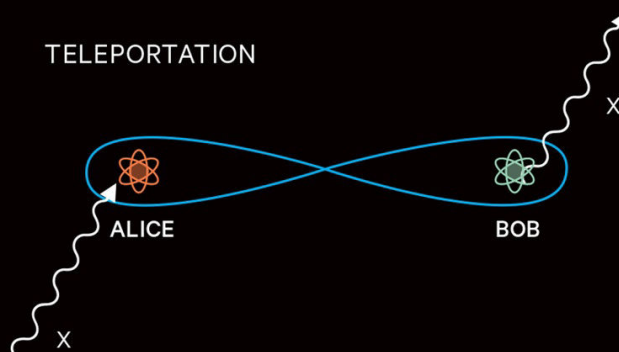
Quantum communication uses entanglement to create a quantum channel that connects two places.

ENTANGLEMENT



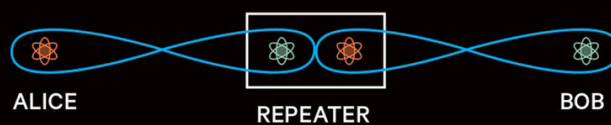
Pairs of entangled particles are generated and sent off to Alice and Bob. In principle, the entanglement can be preserved over any distance.

TELEPORTATION

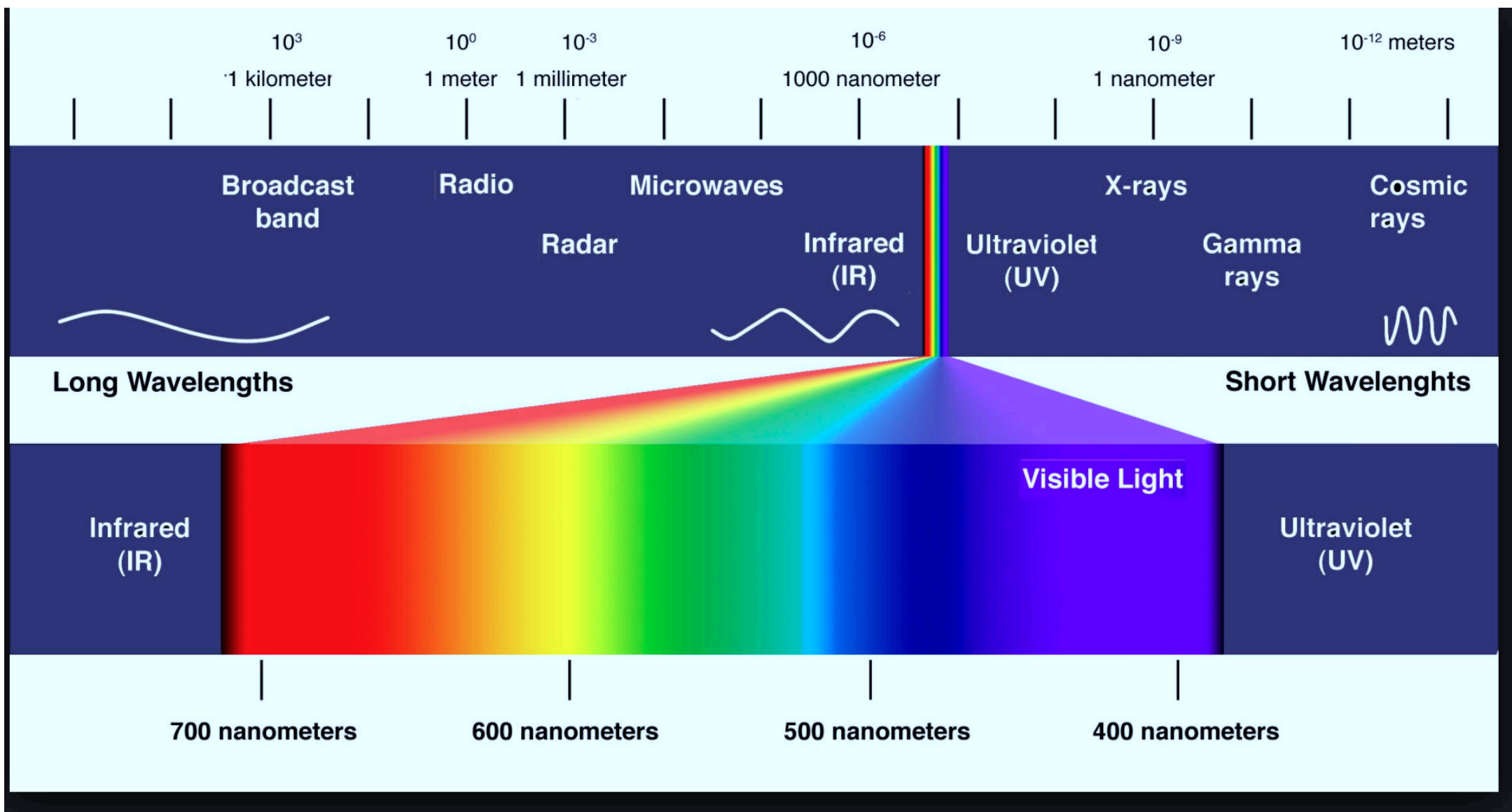


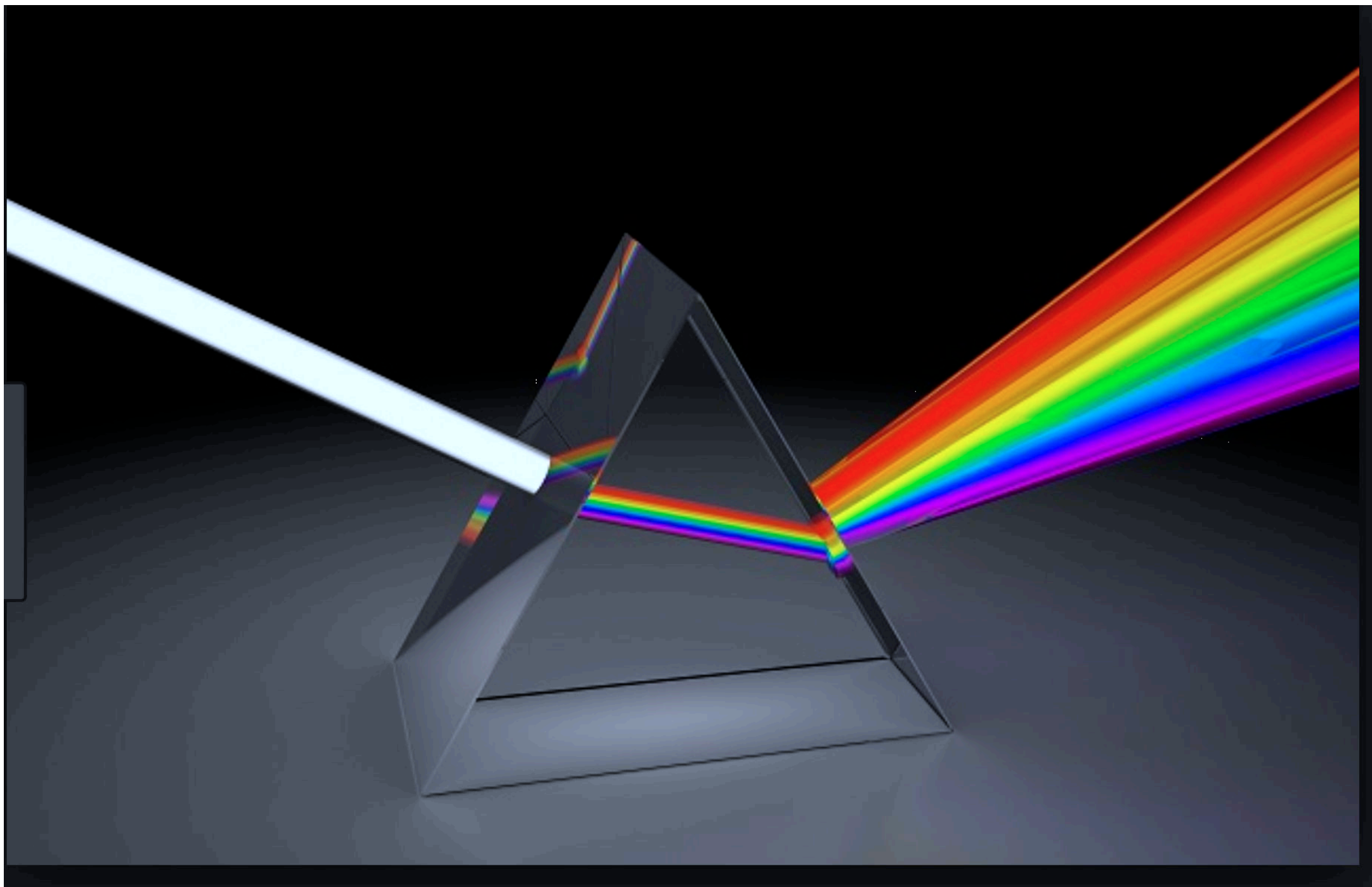
Alice and Bob can use their quantum link to “teleport” information. If Alice performs a measurement on particle X, Bob can create a particle X' with exactly the same properties.

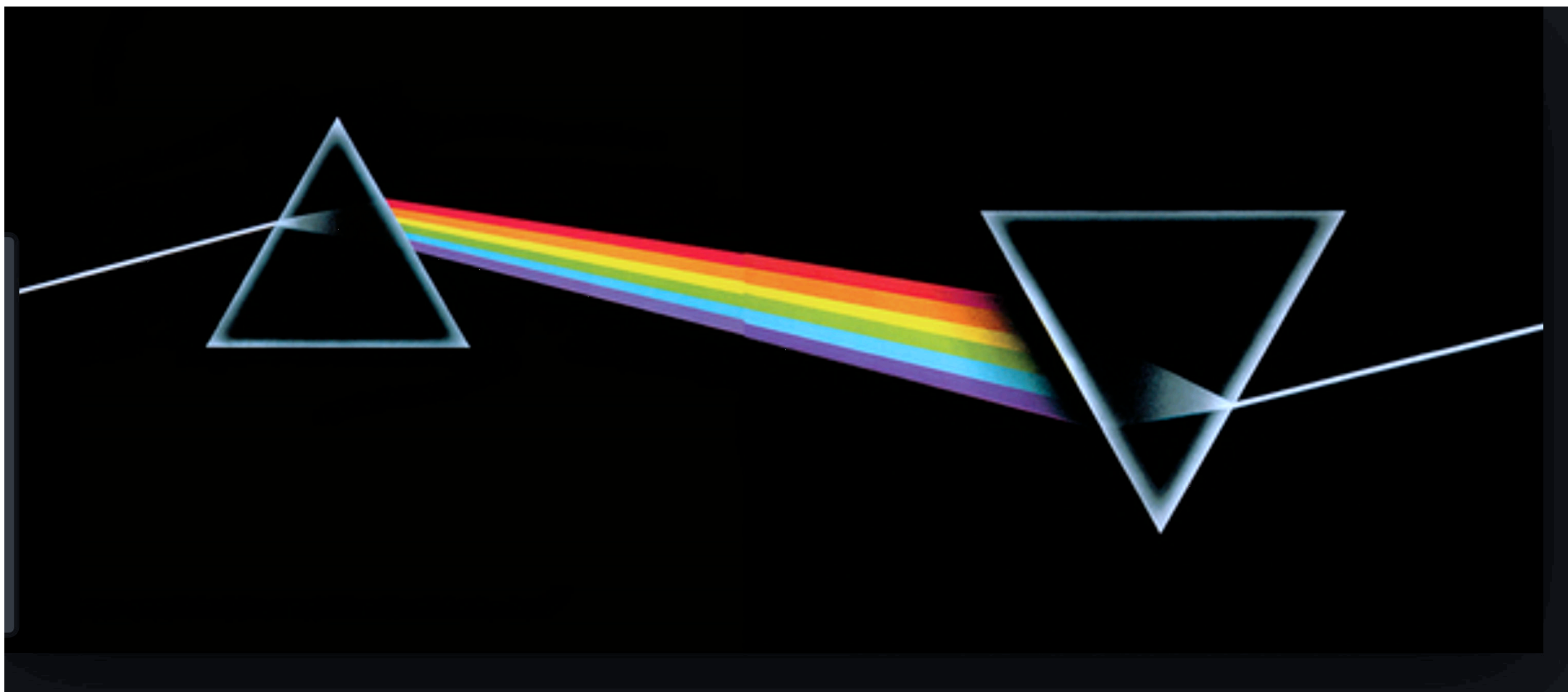
REPEATERS

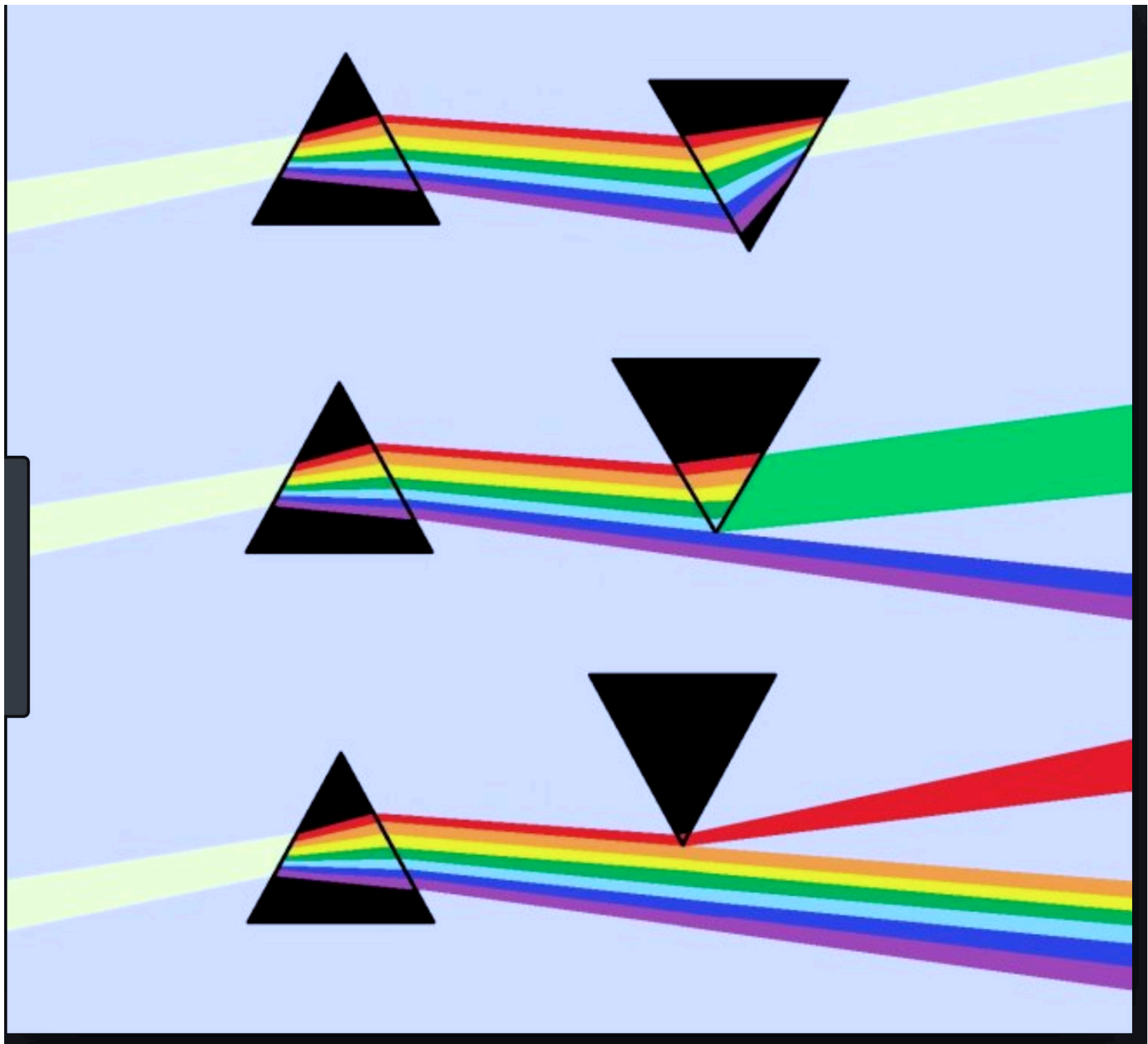


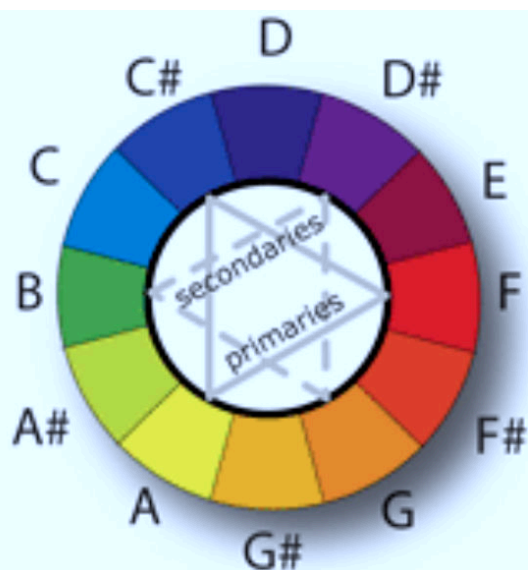
A quantum repeater joins two quantum connections together by “repeating” the quantum signals it receives. Repeaters could be daisy-chained to extend entanglement indefinitely.











Color spectrum to logarithmic octave mapping

(using $2^{1/12}$ log spacing in terahertz mapped to {C} octave)

Tone	Color	Spectral Color Bands	$2^{1/12}$ Calculated Color Centers
D#	Purple		370.0000
E	Magenta		392.0013
F	Red	Red: 384-482	415.3110
F#	Red-orange		440.0066
G	Orange	Orange: 482-503	466.1708
G#	Yellow-orange		493.8907
A	Yellow	Yellow: 503-520	523.2590
A#	Yellow-green		554.3736
B	Green	Green: 520-610	587.3384
C	Cyan		622.2633
C#	Blue	Blue: 610-659	659.2651
D	Indigo		698.4670
D#	Violet	Violet: 659-750	740.0000
E	Purple		784.0027

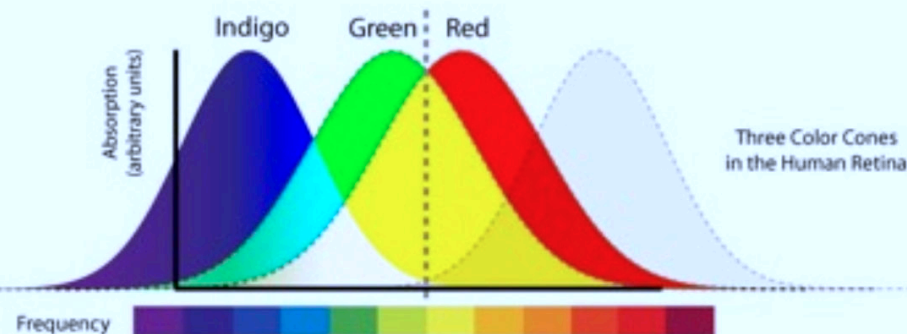
2:1 color octave

Tone-Color Correspondence to a Double Octave

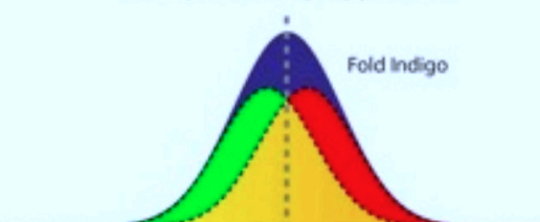


C C# D D# E F F# G G# A A# B C C# D D# E F F# G G# A A# B C

Ratio	1:1	16:15	9:8	6:5	5:4	4:3	7:5	3:2	8:5	5:3	7:4	13:7	2:1	32:15	9:4	12:5	10:4	8:3	14:5	3:1	16:5	10:3	14:4	26:7	4:1
Degree	360°	337.5°	320°	300°	288°	270°	257.14°	240°	225°	216°	205.71°	193.85°	180°	168.75°	160°	150°	144°	135°	128.57°	120°	112.5°	108°	102.86°	96.92°	90°
Circle	0°	22.5°	40°	60°	72°	90°	102.86°	120°	135°	144°	154.29°	166.15°	180°	191.25°	200°	210°	216°	225°	231.43°	240°	247.5°	252°	257.14°	263.08°	270°
Hertz	256	273.07	288	307.02	320	341.33	358.4	384	409.6	426.67	448	475.43	512	546.13	576	614	640	682.67	716.8	768	819.2	853.33	896	950.86	1024



Complementary Opposites



Tone-Color Wheel



Color Symmetry




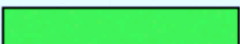
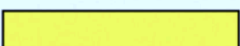




Perceptual Color Wheel


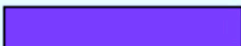
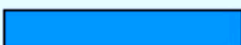
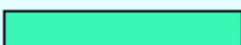
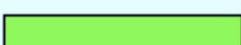
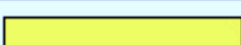

Color spectrum to logarithmic octave mapping
(using $2^{1/12}$ log spacing in terahertz mapped to [C] octave)

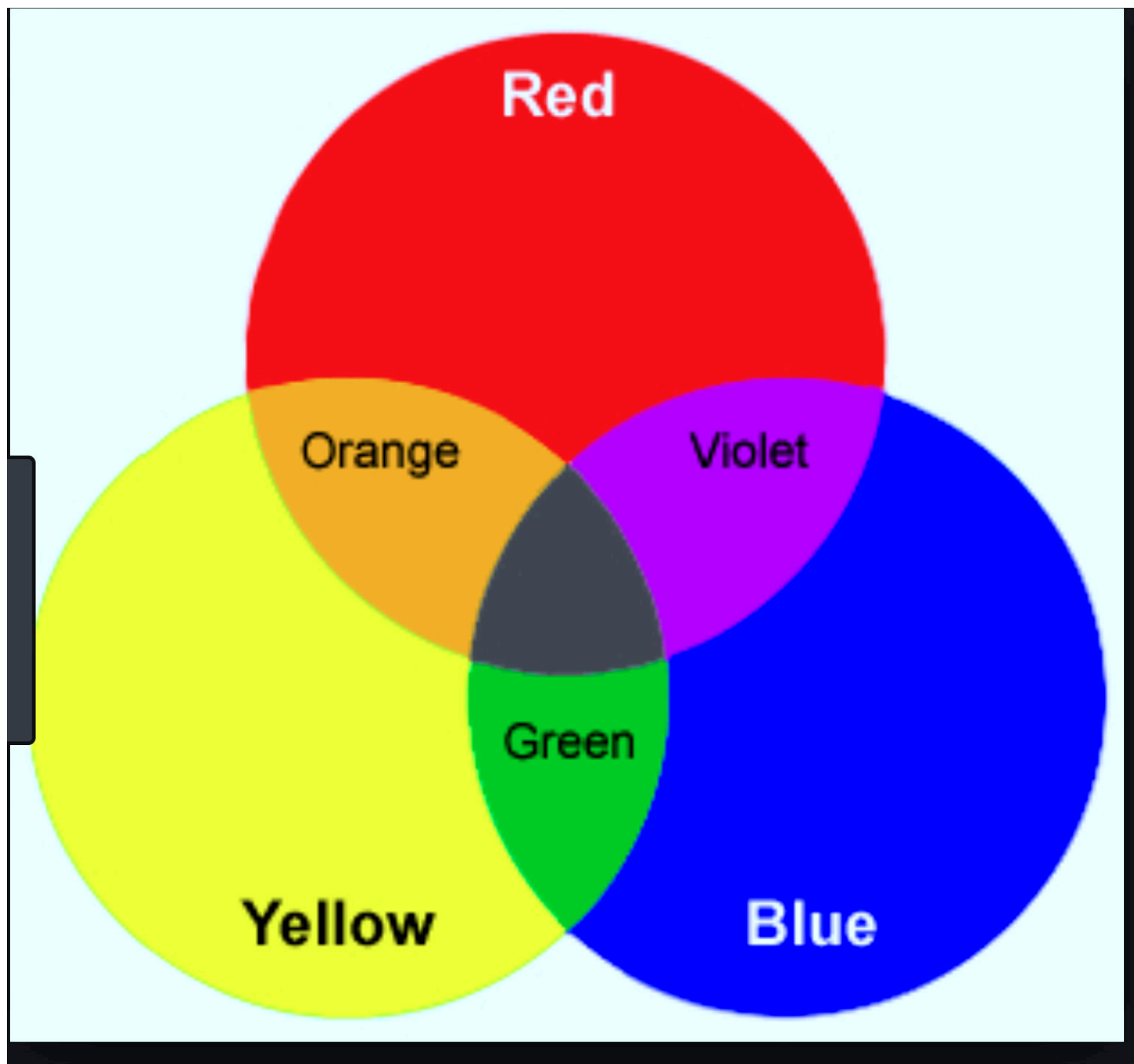
Tone	Color	Spectral Color Bands	$2^{1/12}$ Calculated Color Centers
D#	Purple		370.0000
E	Magenta		392.0013
F	Red	Red: 384-482	415.3110
F#	Red-orange		440.0066
G	Orange	Orange: 482-503	466.1708
G#	Yellow-orange		493.8907
A	Yellow	Yellow: 503-520	523.2590
A#	Yellow-green		554.3736
B	Green	Green: 520-610	587.3384
C	Cyan		622.2633
C#	Blue	Blue: 610-659	659.2651
D	Indigo		698.4670
D#	Violet	Violet: 659-750	740.0000
E	Purple		784.0027

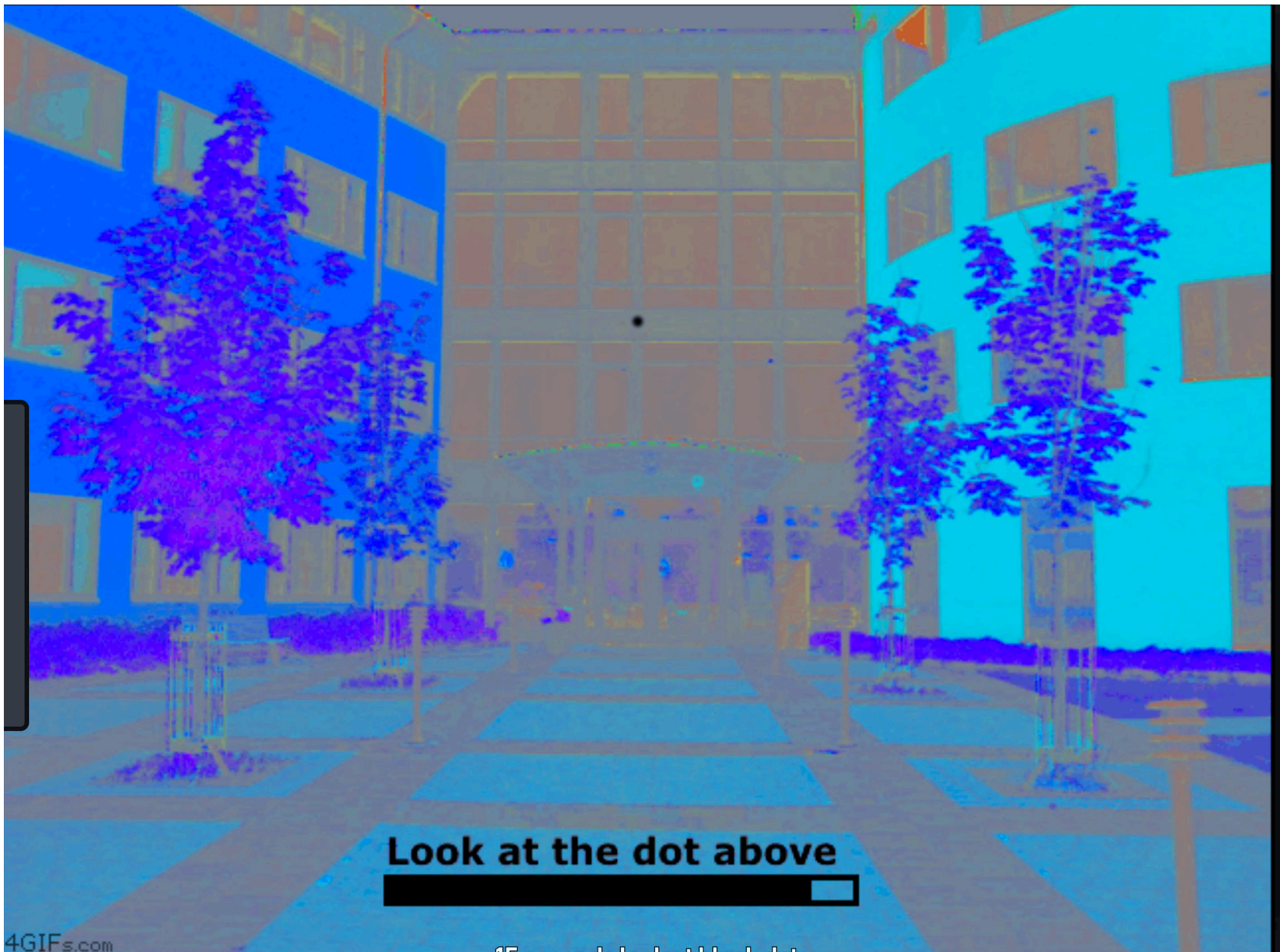
PURE SONOCHROMATIC SCALE

(invisible)	Ultraviolet	Over 717.591 Hz
	Violet	607.542 Hz
	Blue	573.891 Hz
	Cyan	551.154 Hz
	Green	478.394 Hz
	Yellow	462.023 Hz
	Orange	440.195 Hz
	Red	363.797 Hz
(invisible)	Infrared	Below 363.797 Hz

SONOCHROMATIC MUSIC SCALE (basic 12/360)

	Rose	E
	Magenta	D#
	Violet	D
	Blue	C#
	Azure	C
	Cyan	B
	Spring	A#
	Green	A
	Chartreuse	G#
	Yellow	G
	Orange	F#
	Red	F

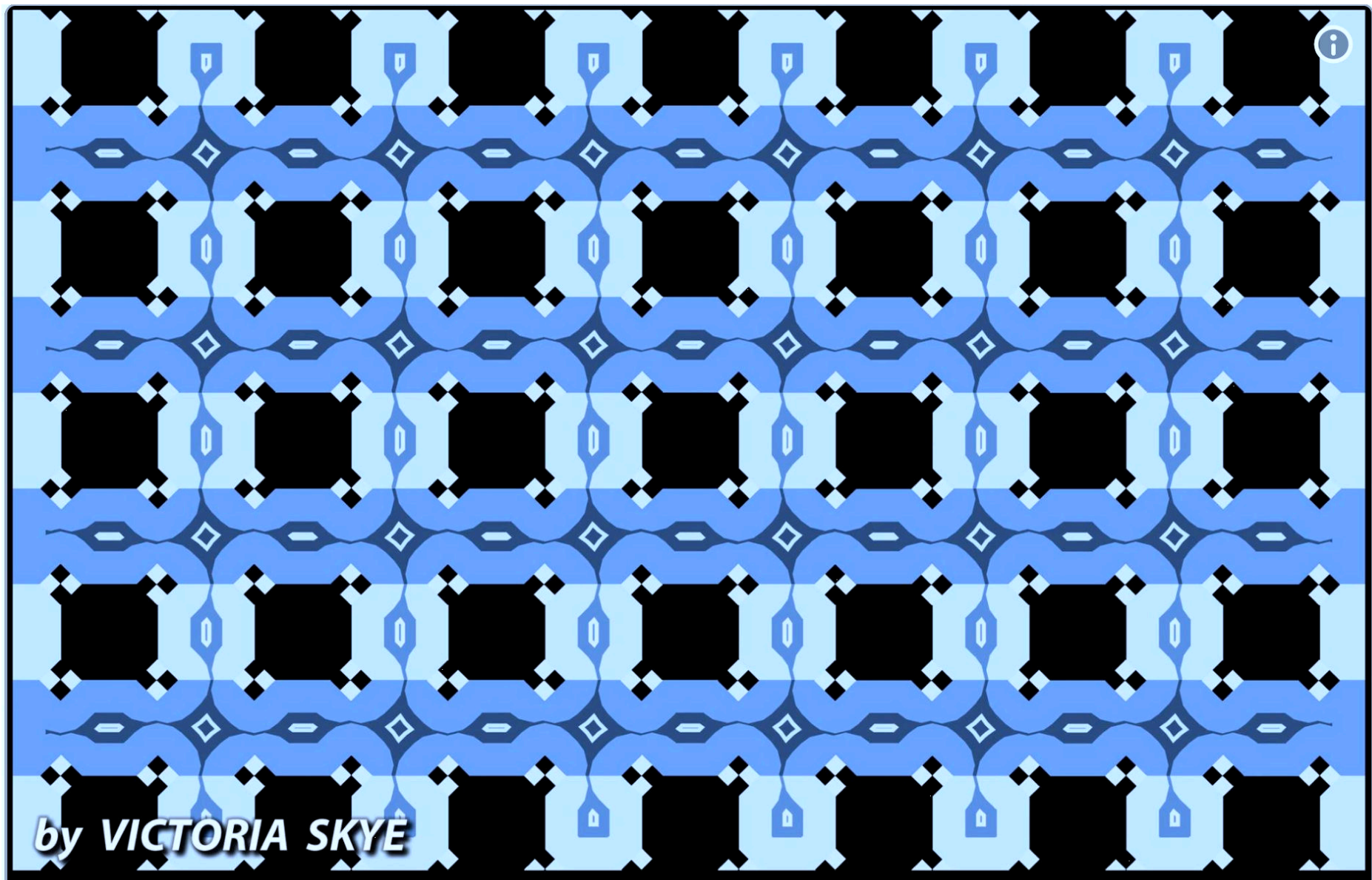




Look at the dot above



**This IS a black and white image
but you DID see the colors of the walls,
didn't you?**



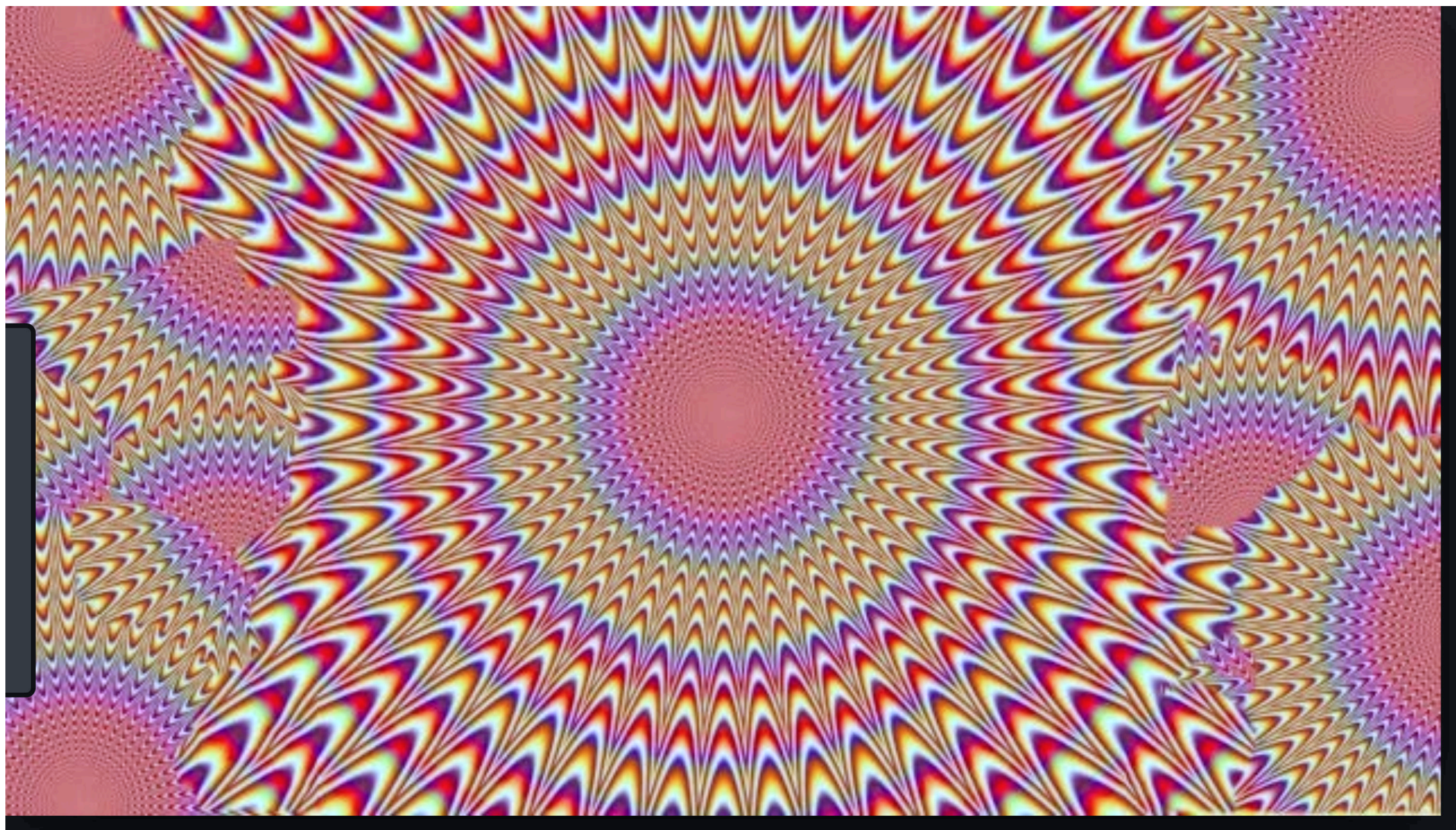
by VICTORIA SKYE

CAFE WALL OPTICAL ILLUSION

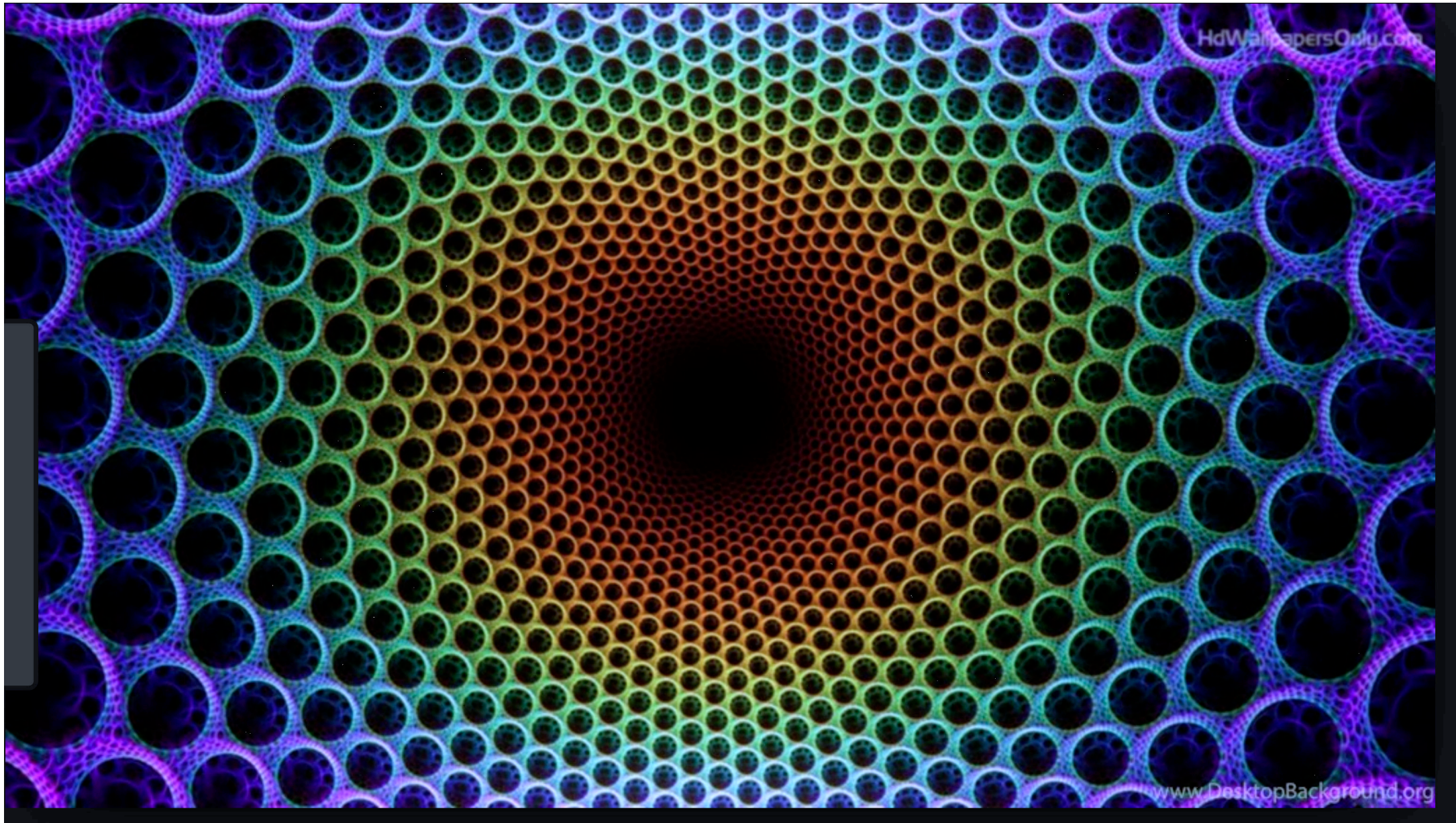
Do the horizontal bars look like they bend and are at an angle?

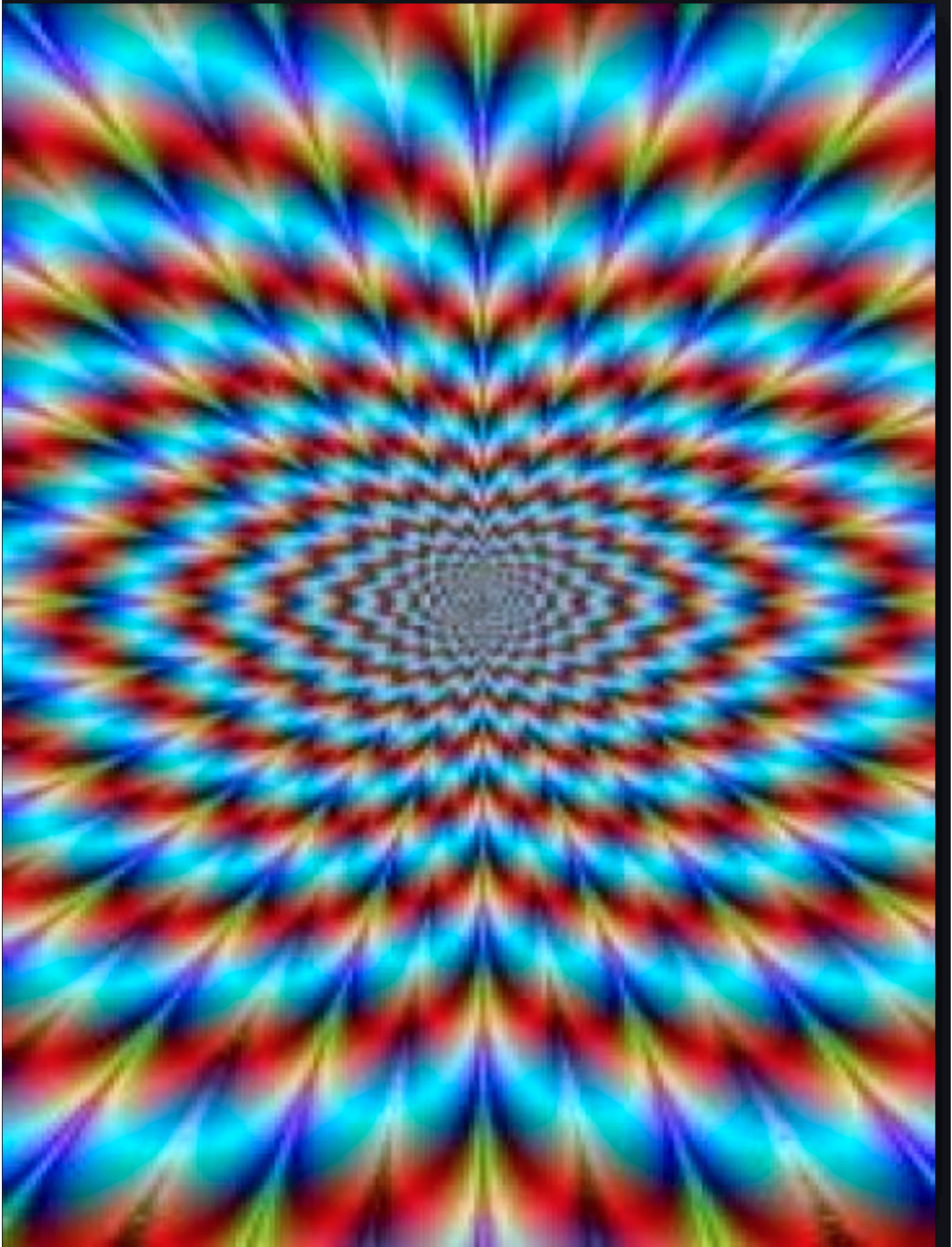
Look again, because they don't bend. They are straight and in parallel rows.

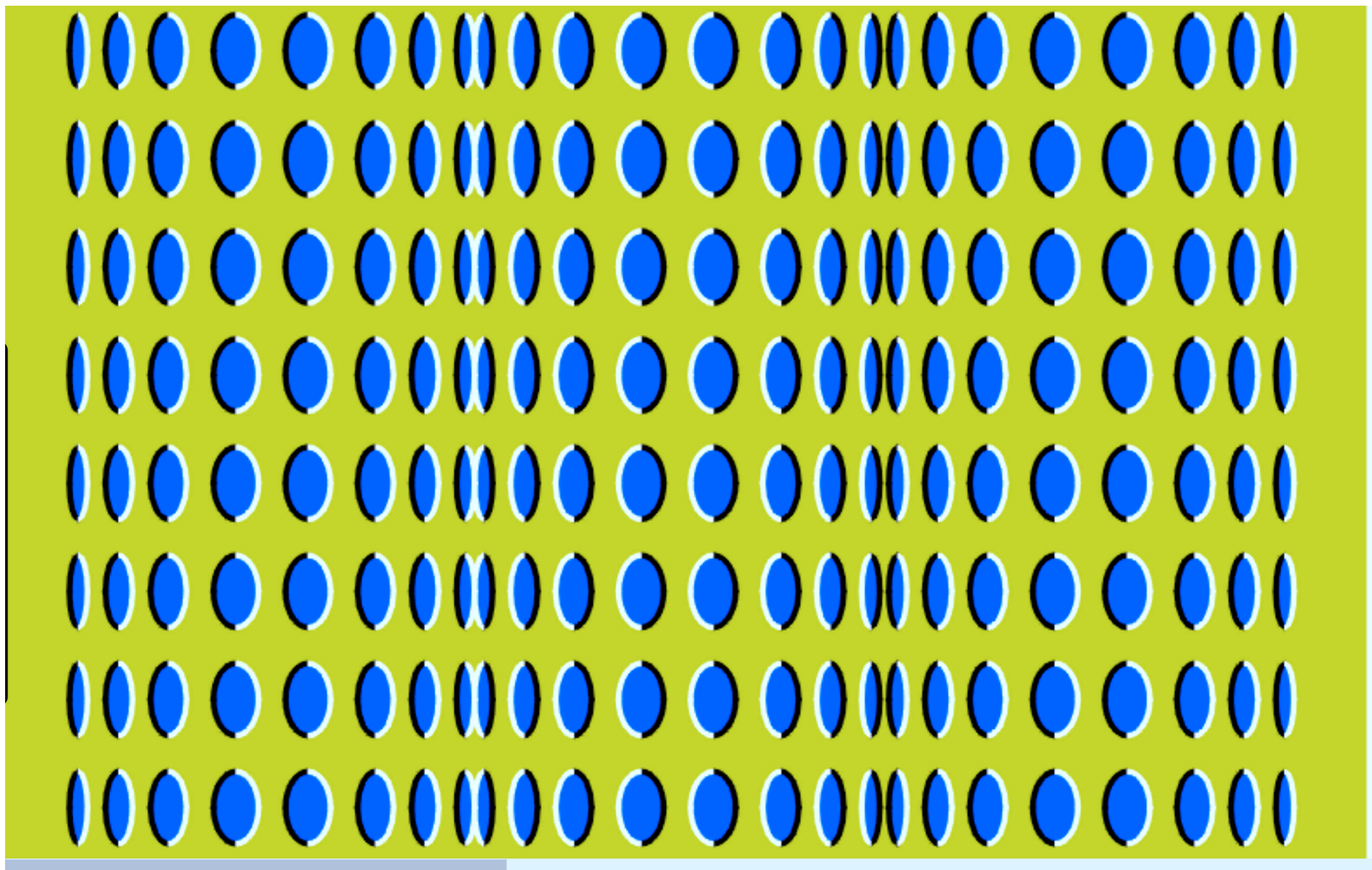
The alternating target patterns, rows and colors all combine to trick your brain.

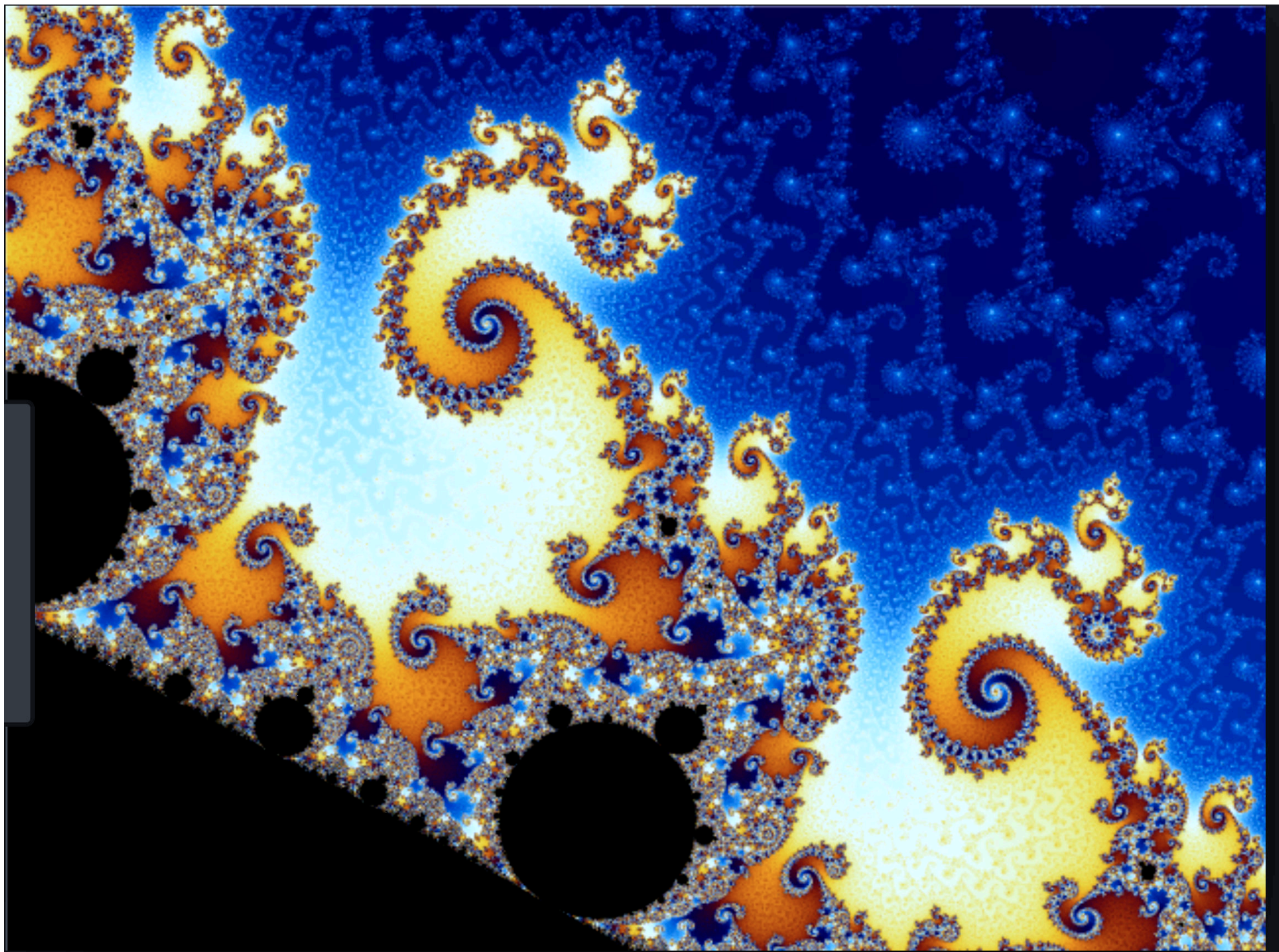


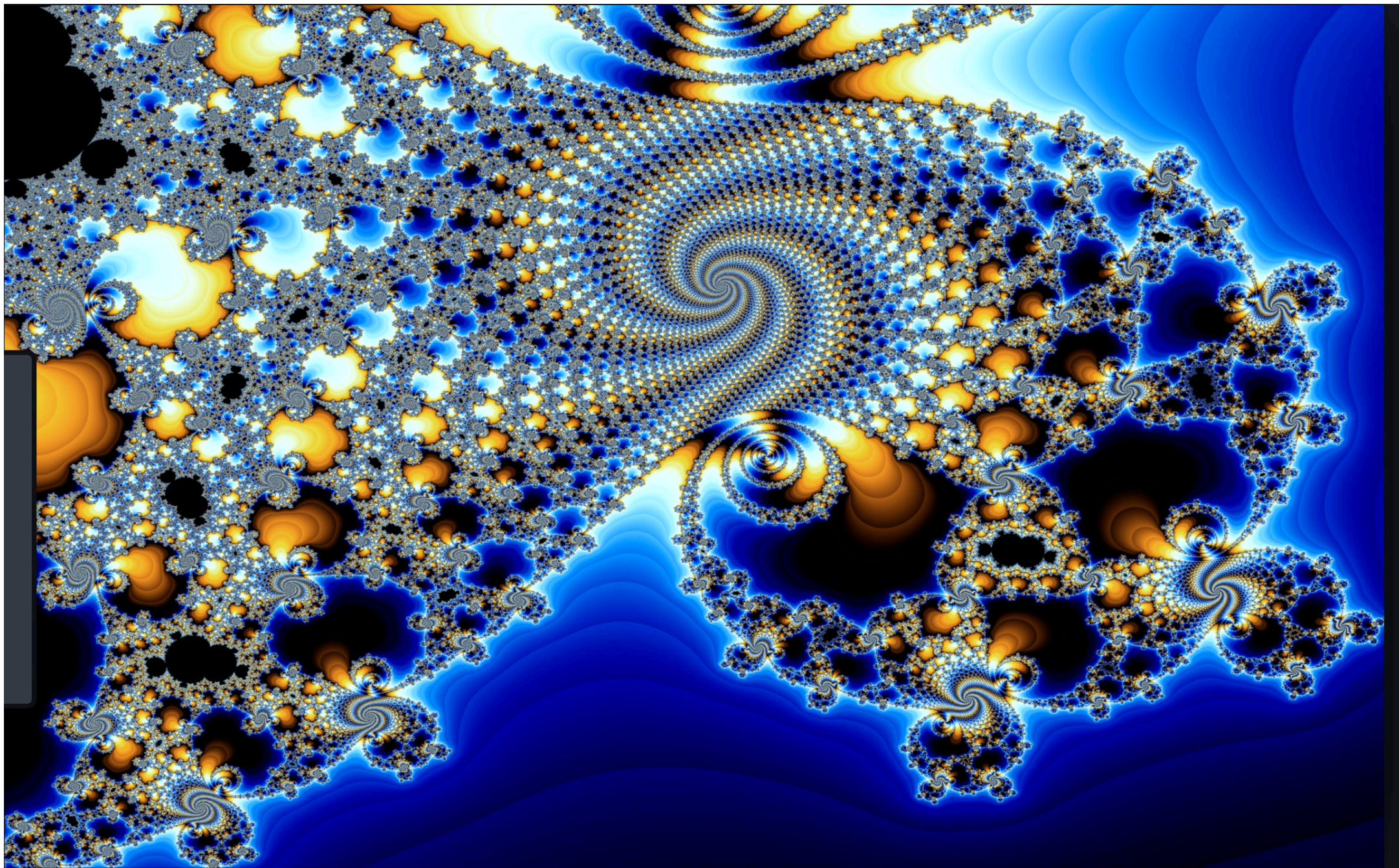


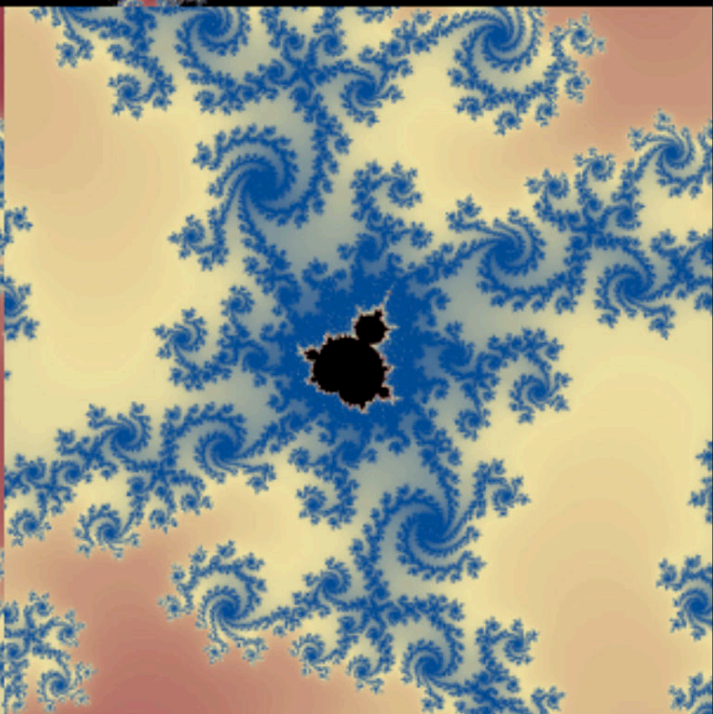
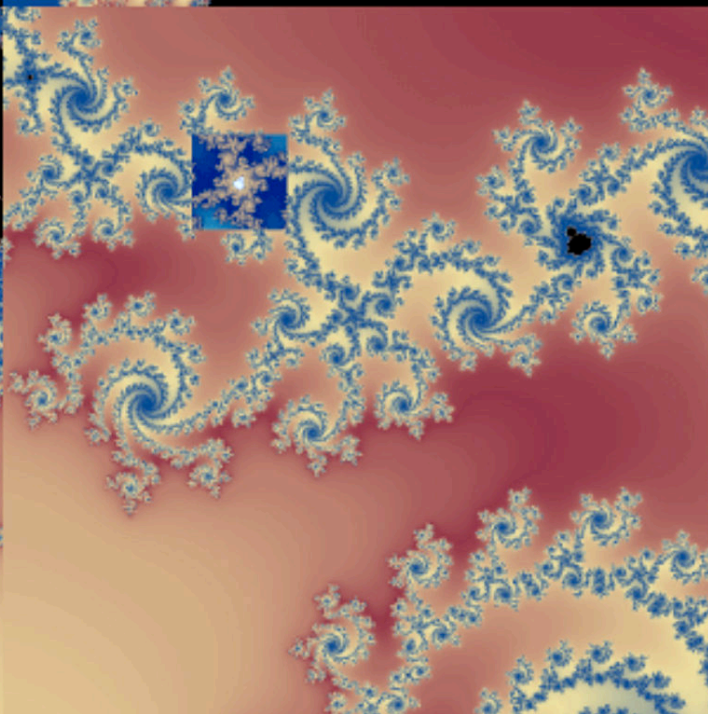
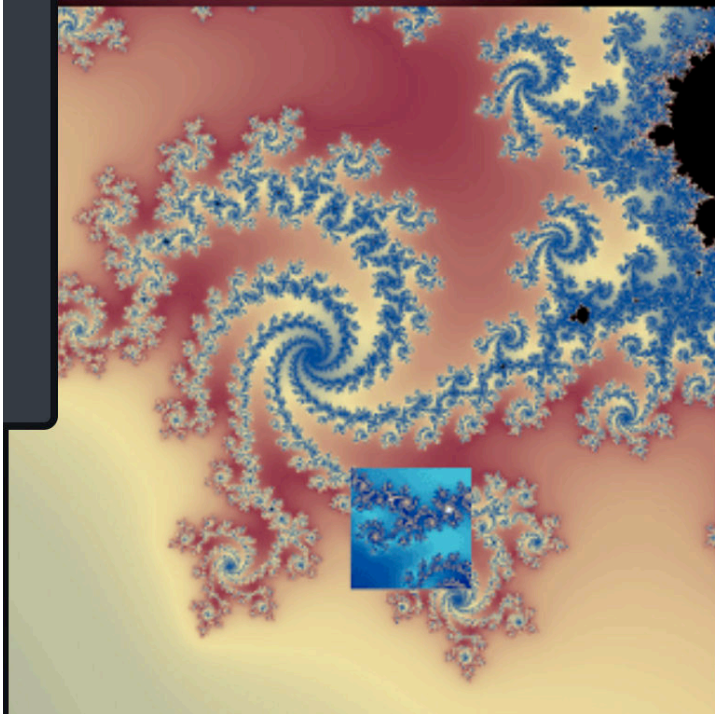
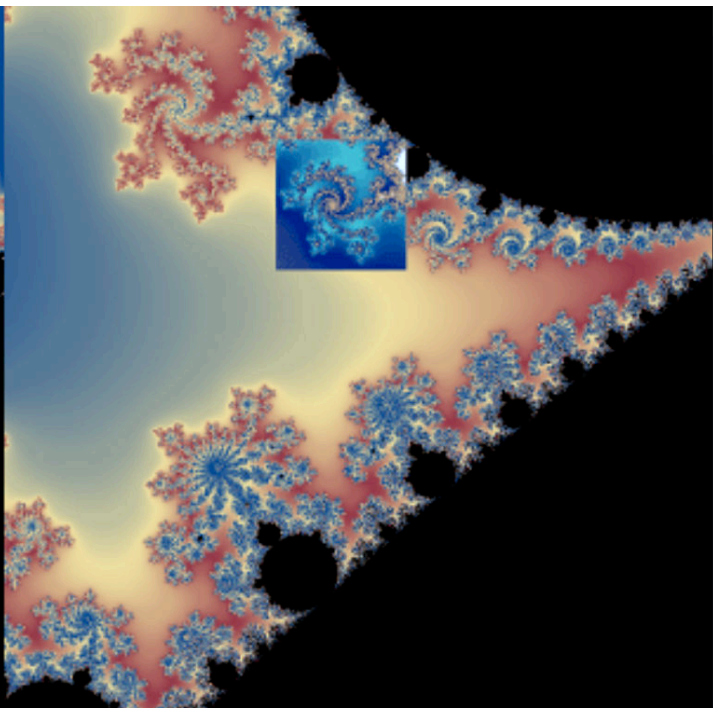
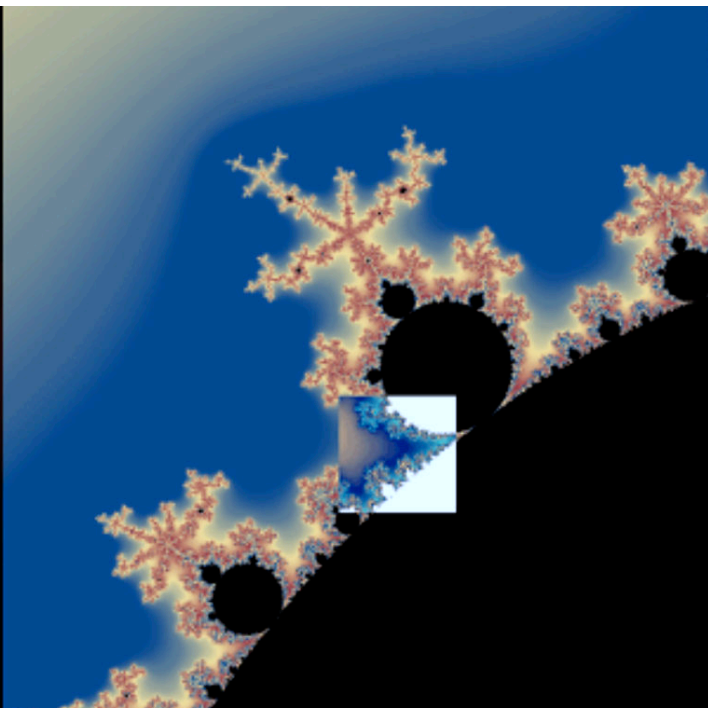
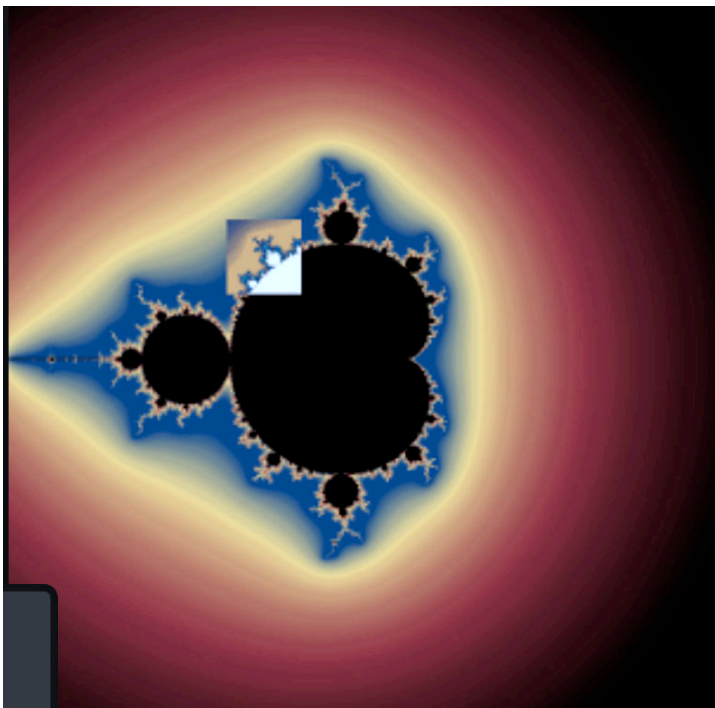














aurora borealis, or northern lights

Chord & Scale Table™

This table shows how scales harmonize with chords and which chord/scale combinations are most widely played in specific styles of music. (The most commonly played chords and scales are initially shown in **CAPITAL LETTERS**.) The system works by substituting numbers for the tones of the major scale: DO=1, RE=2, MI=3, FA=4, SO=5, LA=6, TI=7, DO=8 (1) (see *The Table of Keys*).

MAJOR CHORD FAMILY

CHORD TYPE	CHORD FORMULA	CHORD SYMBOL	SCALE	SCALE FORMULA	STYLE
MAJOR	1 3 5	A letter name alone indicates a major chord. C All chord symbols are shown in the Key of C.	MAJOR PENTATONIC or MINOR PENTATONIC or MAJOR SCALE	1 2 3 5 6 1 1 3 4 5 7 1 (blues scale add ♭5) 1 2 3 4 5 6 7 1	folk, bluegrass, pop, country, rock, reggae, blues rock, reggae, blues classical, pop
major sixth	1 3 5 6	C6	major pentatonic	1 2 3 5 6 1	folk, country, swing
MAJOR SEVENTH	1 3 5 7	Cmaj 7, CM7 CA7, C7	major scale or lydian mode	1 2 3 4 5 6 7 1	classical, pop, jazz
major ninth	1 3 5 7 9	Cmaj 9, CM9, CA9			
six-nine	1 3 (5) 6 9	C6 9, C6/9			
add-nine	1 3 5 9	Cadd 9			jazz
major thirteenth	1 3 5 7 (9) 13	Cmaj13, CA13	major pentatonic, no third, add 4 or lydian mode	1 2 3 4 5 6 1	country, rock, pop, gospel
suspended second	1 2 5	Csus2, Cs2			
suspended fourth	1 4 5	Csus4, Cs4			
major seven-flat-five	1 3 ♭5 7	Cmaj 7♭5, CA7 ♭5		1 2 3 4 5 6 7 1	jazz

MINOR CHORD FAMILY

MINOR	1 ♭3 5	Cmin, Cm, C-	minor pentatonic or DORIAN MODE or AEOLIAN MODE (natural minor)	1 ♭3 4 5 7 1	folk, classical, country, bluegrass, rock, reggae, blues, pop
MINOR SEVENTH	1 ♭3 5 7	Cmin7, Cm7, C-7		1 2 ♭3 4 5 6 7 1	classical, country, rock, pop, latin, jazz, blues
minor ninth	1 ♭3 5 7 9	Cmin9, Cm9, C-9		1 2 ♭3 4 5 6 7 1	classical, pop, jazz,
minor eleventh	1 ♭3 5 7 (9) 11	Cmin11, Cm11, C-11		1 2 ♭3 4 5 6 7 1	
minor sixth	1 ♭3 5 6	Cmin6, Cm6, C-6	minor pentatonic or dorian mode	1 2 3 4 5 6 7 1	rock, pop, jazz
minor six-nine	1 ♭3 (5) 6 9	Cm6 9, Cm6/9		1 2 3 4 5 6 7 1	classical, rock, pop, latin, jazz,
minor thirteenth	1 ♭3 5 7 (9)(11)13	Cmin13, Cm13, C-13		1 2 3 4 5 6 7 1	
minor seven-flat-five (half-diminished)	1 ♭3 ♭5 7	Cm7 ♭5, C°		1 2 3 4 5 6 7 1	jazz
minor-major seven	1 ♭3 5 7	Cm(maj7), CmΔ, Cm(M7), Cm7	melodic minor	1 2 ♭3 4 5 6 7 1	

DOMINANT CHORD FAMILY

SEVENTH	1 3 5 7	C7 (dominant 7th)	MIXOLYDIAN MODE or minor pentatonic	1 2 3 4 5 6 7 1 1 ♭3 4 5 7 1	classical, folk, country, rock, latin, pop, jazz rock, blues
ninth	1 3 5 7 9	C9, (C7 add 9)	mixolydian mode	1 2 3 4 5 6 7 1	rock, pop
eleventh	1 (3) 5 7 (9) 11	C11		1 2 3 4 5 6 7 1	latin, jazz
thirteenth	1 3 5 7 (9)(11)13	Cmin11, Cm11, C-11		1 2 3 4 5 6 7 1	
seven-flat-five	1 3 ♭5 7	C7 ♭5, C7-5		1 2 3 4 5 6 7 1	
seven-sharp-five (augmented seventh)	1 3 ♯5 7	C7 ♯5, C7+5 C aug 7, C+7	whole-tone scale	1 2 3 5 6 7 1	pop, jazz
seven-flat-nine	1 3 5 7 ♭9	C7 ♭9, C7-9	diminished/whole-tone	1 2 3 3 5 6 7 1	
seven-sharp-nine	1 3 5 7 ♯9	C7 ♯9, C7+9	half-whole diminished	1 2 3 3 5 6 7 1	
any combination of the above four chords	7 ♭5 9, 7 ♯5 9 7 ♯5 9, 7 ♯5 9		diminished/whole-tone	1 2 3 3 5 6 7 1	

AUGMENTED & DIMINISHED

augmented	1 3 ♯5	Caug, C+	whole-tone scale	1 2 3 5 6 7 1	pop, jazz
diminished	1 ♭3 5	Cdim, C°	diminished/whole-tone	1 2 3 3 5 6 7 1	
diminished seven	1 ♭3 5 7	Cdim7, C°7	half-whole-diminished	1 2 3 3 5 6 7 1	
			whole-half-diminished	1 2 3 4 5 6 7 1	

blues scale = 1 ♭3 4 5 5 7 1 harmonic minor = 1 2 ♭3 4 5 6 7 1 phrygian mode = 1 2 ♭3 4 5 6 7 1



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Theory & Transposing Guide™

Table of Keys™

MAJOR SCALE
1 2 3 4 5 6 7 1

UNIVERSAL KEY
(scale degrees)

DO	RE	MI	FA	SO	LA	TI	DO
whole-step	whole	half-step	whole	whole	whole	half	
1	(♭9)	2	(9) (♭9) ♯2	3	(11) (♯11) ♯4	5	(13) ♯5
♭2	♭3	4	♭5	6	♭7	7	(8)

TONIC 12 half-steps in each octave (chromatic scale) OCTAVE

Key of C

Key of D♭

Key of D

Key of E♭

Key of E

Key of F

Key of F♯

Key of G♭

Key of G

Key of A♭

Key of A

Key of B♭

Key of B

C	D♭	D	D♯	E	F	F♯	G	G♯	A	B♭	B	C
D♭	E♭	E	E♯	F	G	G♯	A♭	A	A♯	B	B♯	C
D	E	E♯	F	F♯	G	G♯	A	A♯	B	B♯	C	D
E♭	F	F♯	G	G♯	A	A♯	B	B♯	C	C♯	D	E
E	F	F♯	G	G♯	A	A♯	B	B♯	C	C♯	D	E
F	G	G♯	A	A♯	B	B♯	C	C♯	D	D♯	E	F
F♯	G	G♯	A	A♯	B	B♯	C	C♯	D	D♯	E	F
G♭	A	A♯	B	B♯	C	C♯	D	D♯	E	E♯	F	G
G	A	A♯	B	B♯	C	C♯	D	D♯	E	E♯	F	G
A♭	B	B♯	C	C♯	D	D♯	E	E♯	F	F♯	G	A
A	B	B♯	C	C♯	D	D♯	E	E♯	F	F♯	G	A
B♭	C	C♯	D	D♯	E	E♯	F	F♯	G	G♯	A	B
B	C	C♯	D	D♯	E	E♯	F	F♯	G	G♯	A	B

UNIVERSAL KEY
(chord function)

I	II	III	IV	V	VI	VII	I
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THE UNIVERSAL KEY is a musical numbering system based on the major scale that uses numbers instead of letters to identify the notes of the scale: DO=1, RE=2, MI=3, FA=4, SO=5, LA=6, TI=7, DO=8(1).
ROMAN NUMERALS: Professional studio musicians, who must be able to play on sight from chord charts in any key, often use a handy system of music notation known as "the Nashville system" for writing and playing chord charts. The Roman numerals (I, IV, V, etc.) represent major chords built off any scale degree; other chords are shown by a Roman numeral followed by the abbreviation for that chord type. For example, IVm is a minor chord with the fourth degree of the major scale as the root. In the Key of D, the IVm chord is G-minor; in the Key of B, the IVm chord is E-minor.

